37127

STIC-EIC1600/2900

From: STIC-EIC1600/2900@uspto.gov
Sent: Thursday, October 13, 2011 2:37 PM
To: Winakur, Eric
Cc: STIC-EIC1600/2900
Subject: Confirmation Receipt: 1600 Search Request - 10566406

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Requester ----------

Name: **WINAKUR, ERIC FRANK**
Organization: **TC 3700**
Art Unit: **3777**
Employee Number
Office Location: **RND-7A31**
Phone Number: **(571)272-4736**
Email: **eric.winakur@uspto.gov**

Request Detail ----------

Attachment: chemReq10566406.doc

Case/Application number: **10566406** PALM
Priority App. Filing Date:
Format for Search Results: **SCORE & EMAIL**

Meaning of unusual acronyms or initialisms:

Identify the novelty:

Additional Comments:
Please see my attachment for details. If you need additional info, please contact me. Wasn't sure what SCORE format is, but checked it in case that is preferable to e-mail.

Request Date: **Thursday, October 13, 2011 2:36 PM**

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=> file registry
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STRUCTURE FILE UPDATES: 17 OCT 2011 HIGHEST RN 1337015-67-4
DICTIONARY FILE UPDATES: 17 OCT 2011 HIGHEST RN 1337015-67-4

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FILE COVERS 1907 - 18 Oct 2011 VOL 155 ISS 17
FILE LAST UPDATED: 17 Oct 2011 (20111017/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2011
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2011

ZCAplus now includes complete International Patent Classification (IPC)
reclassification data for the second quarter of 2011.

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This file contains CAS Registry Numbers for easy and accurate
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L33           32 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  DOMSCHKE A?/AU,AUTH
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L35            2 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  L32 AND (L33 OR L34)
L36            4 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  L33 AND L34
L37            5 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  (L35 OR L36)


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L41            4 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  L39 AND ?BORO?


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L48            7 L37 OR L41

=> file medline embase biosis wpix
FILE 'MEDLINE' ENTERED AT 11:13:17 ON 18 OCT 2011

FILE 'EMBASE' ENTERED AT 11:13:17 ON 18 OCT 2011
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L34        19268 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  SMITH D?/AU,AUTH
L43         2007 SEA (L32 OR L33 OR L34) AND (?GLUCOS? OR ?SACCHARID? OR SUGAR)

L45           11 SEA L43 AND ?BORO?


=> d stat que L46
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L33           32 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  DOMSCHKE A?/AU,AUTH
L34        19268 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  SMITH D?/AU,AUTH
L43         2007 SEA (L32 OR L33 OR L34) AND (?GLUCOS? OR ?SACCHARID? OR SUGAR)

L44          159 SEA L43 AND ((L17 OR L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR
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L45           11 SEA L43 AND ?BORO?
L46            9 SEA L44 AND L45


=> d stat que L47
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L34        19268 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  SMITH D?/AU,AUTH
L35            2 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  L32 AND (L33 OR L34)
L36            4 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  L33 AND L34
L37            5 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  (L35 OR L36)
L47            7 SEA L37


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L49           14 (L45 OR L46 OR L47)

=> dup rem l48 L49
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PROCESSING COMPLETED FOR L48
PROCESSING COMPLETED FOR L49
L50 12 DUP REM L48 L49 (9 DUPLICATES REMOVED)
ANSWERS '1-7' FROM FILE ZCAPLUS
ANSWERS '8-9' FROM FILE MEDLINE
ANSWER '10' FROM FILE BIOSIS
ANSWERS '11-12' FROM FILE WPIX

=> d iall L50 1-10; d iall hit L50 11-12

L50 ANSWER 1 OF 12 ZCAPLUS COPYRIGHT 2011 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2010:784810 ZCAPLUS Full-text
DOCUMENT NUMBER: 153:118116
ENTRY DATE: Entered STN: 25 Jun 2010
TITLE: Method for making silicone hydrogel contact lenses
INVENTOR(S): Chang, Frank; Vogt, Juergen; Pruitt, John Dallas; Qian, Xinming; Smith, Dawn A.; Domschke, Angelika Maria; Holland, Troy Vernon
PATENT ASSIGNEE(S): Novartis AG, Switz.; Turek, Richard Charles; Wu, Daqing
SOURCE: PCT Int. Appl., 46pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
CLASSIFICATION: 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 63
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2010071691	A1	20100624	WO 2009-US47428	20090616
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
US 20090160074	A1	20090625	US 2008-316993	20081218
US 7780879	B2	20100824		
CA 2747355	A1	20100624	CA 2009-2747355	20090616
US 20100258961	A1	20101014	US 2009-456364	20090616
KR 2011105813	A	20110927	KR 2011-7016544	20090616
EP 2374031	A1	20111012	EP 2009-789823	20090616

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR

PRIORITY APPLN. INFO.:

US 2008-316993	A	20081218
US 2009-212623P	P	20090414
US 2007-8554P	P	20071220
WO 2009-US47428	W	20090616

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2010071691	IPCI	G02B0001-04 [I,A]
	IPCR	G02B0001-04 [I,A]
	ECLA	G02B0001-04B2+C08L51/08S; G02B0001-04B2+C08L83/04
US 20090160074	IPCI	B29D0011-00 [I,A]; C08F0002-46 [I,A]; B29D0011-00 [I,A]; G02B0001-12 [I,A]; B29C0035-08 [I,A]; B29C0033-60 [I,A]; C08J0005-00 [I,A]; A61K0006-083 [I,A]
	IPCR	B29D0011-00 [I,A]; C08F0002-46 [I,A]; A61K0006-083 [I,A]; B29C0033-60 [I,A]; B29C0035-08 [I,A]; C08J0005-00 [I,A]; G02B0001-12 [I,A]
	NCL	264/001.360; 264/001.100; 522/076.000; 264/002.600; 264/300.000; 264/319.000; 264/331.130; 264/496.000
	ECLA	G02B0001-04B2; B29C0033-60
CA 2747355	IPCI	G02B0001-04 [I,A]
	ECLA	G02B0001-04B2+C08L51/08S; G02B0001-04B2+C08L83/04
US 20100258961	IPCI	B29D0011-00 [I,A]; C08F0002-50 [I,A]; G02C0007-04 [N,A]
	IPCR	B29D0011-00 [I,A]; C08F0002-50 [I,A]; G02C0007-04 [N,A]
	NCL	264/001.380; 351/160.000H; 522/099.000
	ECLA	G02B0001-04B2+C08L51/08S; G02B0001-04B2+C08L83/04
KR 2011105813	IPCI	B29D0011-00 [I,A]; C08G0077-26 [I,A]; C08J0005-00 [I,A]
EP 2374031	IPCI	G02B0001-04 [I,A]

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ABSTRACT:

A method for producing silicone hydrogel contact lenses comprises: providing a mold for making a soft contact lens, wherein the mold has a first mold half with a first molding surface defining the anterior surface of a contact lens and a second mold half with a second molding surface defining the posterior surface of the contact lens, wherein said first and second mold halves are configured to receive each other such that a cavity is formed between said first and second molding surfaces; introduce a monomer mixture of lens-forming materials into the cavity, wherein the monomer mixture comprises at least one hydrophilic amide-type vinylic monomer, at least one siloxane-containing (meth)acrylamide monomer, at least one polysiloxane vinylic monomer or macromer, and from about 0.05-1.5% of a photoinitiator, wherein the lens forming material is characterized by having an ability to be cured by a UV light having an UV-intensity of about 4.1 mW/cm2 within about 100 s; and irradiating, under a spatial limitation of actinic radiation, the lens-forming material in the mold for a time period of about 120 s or less, so as to crosslink the lens-forming material to form the silicone hydrogel contact lens, wherein the produced contact lens comprises an anterior surface defined by the first molding surface, an opposite posterior surface defined by the second molding surface, and a lens edge defined by the spatial limitation of actinic radiation.

SUPPL. TERM: silicone hydrogel contact lens
INDEX TERM: Polysiloxanes
ROLE: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydrogel; method for making silicone hydrogel contact lenses)
INDEX TERM: Contact lenses
(method for making silicone hydrogel contact lenses)
INDEX TERM: Polymerization
(photopolymn.; method for making silicone hydrogel contact lenses)
INDEX TERM: Hydrogels
(silicone; method for making silicone hydrogel contact lenses)
INDEX TERM: 31900-57-9DP, Polydimethylsiloxane, bis(3-acrylamidopropyl)-terminated
ROLE: IMF (Industrial manufacture); PREP (Preparation)
(assumed monomer; method for making silicone hydrogel contact lenses)
INDEX TERM: 31900-57-9DP, Polydimethylsiloxane, bis(2-hydroxyethoxypropyl)-terminated, reaction products with isophorone diisocyanate and isocyanatoethylmethacrylate, polymers
ROLE: IMF (Industrial manufacture); TEM (Technical or engineered material use); THU (Therapeutic use); PREP (Preparation); USES (Uses)
(assumed monomer; method for making silicone hydrogel contact lenses)
INDEX TERM: 31900-57-9D, Polydimethylsiloxane, bis(3-aminopropyl)-terminated
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(assumed monomer; method for making silicone hydrogel contact lenses)
INDEX TERM: 79-39-0D, Methacrylamide, polymers 107-58-4D, N-tert-Butylacrylamide, polymers 924-42-5D, N-(Hydroxymethyl)acrylamide, polymers 1852-16-0D, N-(Butoxymethyl)acrylamide, polymers 2210-24-4D, N-Phenylacrylamide, polymers 2210-25-5D, N-Isopropylacrylamide, polymers 2680-03-7D, N,N-Dimethylacrylamide, polymers 2873-97-4D, Diacetone acrylamide, polymers 5205-93-6D, N-[3-(Dimethylamino)propyl]methacrylamide, polymers 6737-24-2D, 2-Acrylamidoglycolic acid, polymers 6976-91-6D, N,N-Dimethylmethacrylamide, polymers 7646-67-5D, N-(2-Hydroxyethyl) acrylamide, polymers 13749-61-6D, N-Isopropylmethacrylamide, polymers 13880-05-2D, N-[Tris(hydroxymethyl)methyl]acrylamide, polymers 15214-89-8D, 2-Acrylamido-2-methyl-1-propanesulfonic acid, polymers 16669-59-3D, N-(Isobutoxymethyl)acrylamide, polymers 44817-99-4D, polymers 45021-77-0D, (3-Acrylamidopropyl)trimethylammonium chloride, polymers 95773-74-3D, polymers 115257-95-9D, polymers 115258-10-1D, polymers 862097-64-1D, polymers

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ROLE: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydrogels; method for making silicone hydrogel contact lenses)

INDEX TERM: 362523-60-2P
ROLE: IMF (Industrial manufacture); PREP (Preparation)
(method for making silicone hydrogel contact lenses)

INDEX TERM: 4098-71-9DP, Isophorone diisocyanate, reaction products with Fomblin ZDOL and KF-6001 and 2-isocyanatoethyl methacrylate 4098-71-9DP, Isophorone diisocyanate, reaction products with bis(2-hydroxyethoxypropyl)-polydimethylsiloxane and isocyanatoethylmethacrylate, polymers 17096-07-0DP, polymers 30674-80-7DP, 2-Isocyanatoethyl methacrylate, reaction products with Fomblin ZDOL and isophorone diisocyanate and KF-6001 30674-80-7DP, reaction products with bis(2-hydroxyethoxypropyl)-polydimethylsiloxane and isophorone diisocyanate, polymers 107852-51-7DP, Fomblin Z-DOL, reaction products with isophorone diisocyanate and KF-6001 and 2-isocyanatoethyl methacrylate 156327-07-0DP, KF-6001, reaction products with Fomblin ZDOL and isophorone diisocyanate and 2-isocyanatoethyl methacrylate 156327-07-0DP, reaction products with isophorone diisocyanate and isocyanatoethylmethacrylate, polymers
ROLE: IMF (Industrial manufacture); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(method for making silicone hydrogel contact lenses)

INDEX TERM: 814-68-6, Acryloyl chloride 97917-34-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(method for making silicone hydrogel contact lenses)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S):
(1) Edmond, Q; WO 2006071479 A1 2006 ZCAPLUS
(2) Johnson & Johnson Vision Prod; EP 0940447 A2 1999 ZCAPLUS
(3) Mueller Karl F; US 4605712 A 1986 ZCAPLUS
(4) Nicolson Paul C; US 20070105973 A1 2007 ZCAPLUS
(5) Novartis Ag; WO 2008008752 A2 2008 ZCAPLUS
(6) Novartis Ag; WO 2009085902 A1 2009 ZCAPLUS
(7) Phelan John C; US 20050237483 A1 2005

L50 ANSWER 2 OF 12 ZCAPLUS COPYRIGHT 2011 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2010:84996 ZCAPLUS Full-text
DOCUMENT NUMBER: 152:170552
ENTRY DATE: Entered STN: 22 Jan 2010

TITLE: Silicone-containing polymeric materials with hydrolyzable groups
INVENTOR(S): Chang, Frank; Smith, Dawn A.; Medina, Arturo N.; Quinn, Michael Hugh; Chapoy, L. Lawrence
PATENT ASSIGNEE(S): Novartis AG, Switz.
SOURCE: U.S. Pat. Appl. Publ., 18 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
CLASSIFICATION: 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 63
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20100014047	A1	20100121	US 2009-499117	20090708
CA 2730506	A1	20100128	CA 2009-2730506	20090708
WO 2010011493	A1	20100128	WO 2009-US49859	20090708
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EP 2307190	A1	20110413	EP 2009-790126	20090708
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PRIORITY APPLN. INFO.: US 2008-135474P P 20080721
WO 2009-US49859 W 20090708

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20100014047	INCL	351160000H; 526279000; 264001360
	IPCI	G02C0007-04 [I,A]; C08F0030-08 [I,A]; G02B0001-12 [I,A]
	IPCR	G02C0007-04 [I,A]; C08F0030-08 [I,A]; G02B0001-12 [I,A]
	NCL	351/160.000H; 264/001.360; 526/279.000
	ECLA	C08F0290-06; B29D0011-00C4; C08F0008-12+30/08; C08F0008-12+20/00; C08F0283-12; C08F0283-12D; C08F0290-00; C08F0290-06F; C08F0290-14; C08F0290-14F; G02B0001-04B2+C08L51/08S; G02B0001-04B2+C08L83/04; G02B0001-04B2+C08L33/08; G02B0001-04B2+C08L33/10
CA 2730506	IPCI	B29D0011-00 [I,A]; C08F0230-08 [I,A]; C08F0283-12 [I,A]; C08F0290-06 [I,A]; G02B0001-04 [I,A]
	IPCR	B29D0011-00 [I,A]; C08F0230-08 [I,A]; C08F0283-12 [I,A]; C08F0290-06 [I,A]; G02B0001-04 [I,A]
	ECLA	C08F0290-06; B29D0011-00C4; C08F0008-12+30/08;

		C08F0008-12+20/00; C08F0283-12; C08F0283-12D; C08F0290-00; C08F0290-06F; C08F0290-14; C08F0290-14F; G02B0001-04B2+C08L51/08S; G02B0001-04B2+C08L83/04; G02B0001-04B2+C08L33/08; G02B0001-04B2+C08L33/10
WO 2010011493	IPCI	B29D0011-00 [I,A]; C08F0230-08 [I,A]; C08F0283-12 [I,A]; C08F0290-06 [I,A]; G02B0001-04 [I,A]
	IPCR	B29D0011-00 [I,A]; C08F0230-08 [I,A]; C08F0283-12 [I,A]; C08F0290-06 [I,A]; G02B0001-04 [I,A]
	ECLA	C08F0290-06; B29D0011-00C4; C08F0008-12+30/08; C08F0008-12+20/00; C08F0283-12; C08F0283-12D; C08F0290-00; C08F0290-06F; C08F0290-14; C08F0290-14F; G02B0001-04B2+C08L51/08S; G02B0001-04B2+C08L83/04; G02B0001-04B2+C08L33/08; G02B0001-04B2+C08L33/10
EP 2307190	IPCI	B29D0011-00 [I,A]; C08F0230-08 [I,A]; C08F0283-12 [I,A]; C08F0290-06 [I,A]; G02B0001-04 [I,A]
	ECLA	C08F0290-06; B29D0011-00C4; C08F0008-12+30/08; C08F0008-12+20/00; C08F0283-12; C08F0283-12D; C08F0290-00; C08F0290-06F; C08F0290-14; C08F0290-14F; G02B0001-04B2+C08L51/08S; G02B0001-04B2+C08L83/04; G02B0001-04B2+C08L33/08; G02B0001-04B2+C08L33/10

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ABSTRACT:
The invention provides a silicone hydrogel contact lens including a hydrolyzable units. The hydrolyzable units are converted by hydrolysis into a hydrophilic units which is capable of imparting the silicone hydrogel contact lens a hydrophilic surface without post-curing surface treatment. The invention also provides an actinically crosslinkable prepolymer including hydrolyzable units and use of the prepolymer of the invention. In addition, the invention provides a method for making wettable silicone hydrogel contact lens without posterior surface treatments other than hydrolysis.

SUPPL. TERM: silicone hydrolyzable deriv hydrogel hydrophilic contact lens

INDEX TERM: Polysiloxanes
ROLE: TEM (Technical or engineered material use); USES (Uses)
(acrylic; silicone-containing polymeric materials with hydrolyzable groups for hydrogel soft contact lenses)

INDEX TERM: Acrylic polymers
ROLE: TEM (Technical or engineered material use); USES (Uses)
(polysiloxane-; silicone-containing polymeric materials with hydrolyzable groups for hydrogel soft contact lenses)

INDEX TERM: Hydrogels
(silicone-containing polymeric materials with hydrolyzable groups for hydrogel soft contact lenses)

INDEX TERM: Contact lenses
(soft; silicone-containing polymeric materials with hydrolyzable groups for hydrogel soft contact lenses)

INDEX TERM: 75-01-4D, Vinyl chloride, polymers with unsatd. silicone derivs. having hydrolyzable groups 75-35-4D, Vinylidene chloride, polymers with unsatd. silicone derivs. having hydrolyzable groups 79-06-1D, Acrylamide, polymers with unsatd. silicone derivs. having hydrolyzable groups

79-10-7D, Acrylic acid, polymers with unsatd. silicone derivs. having hydrolyzable groups 79-39-0D, Methacrylamide, polymers with unsatd. silicone derivs. having hydrolyzable groups 79-41-4D, Methacrylic acid, polymers with unsatd. silicone derivs. having hydrolyzable groups 80-62-6D, Methyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 88-12-0D, N-Vinyl-2-pyrrolidone, polymers with unsatd. silicone derivs. having hydrolyzable groups 96-33-3D, Methyl acrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 97-63-2D, Ethyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 100-42-5D, Styrene, polymers with unsatd. silicone derivs. having hydrolyzable groups 103-11-7D, 2-Ethylhexyl acrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 105-38-4D, Vinyl propionate, polymers with unsatd. silicone derivs. having hydrolyzable groups 106-98-9D, 1-Butene, polymers with unsatd. silicone derivs. having hydrolyzable groups 106-99-0D, Butadiene, polymers with unsatd. silicone derivs. having hydrolyzable groups 107-13-1D, Acrylonitrile, polymers with unsatd. silicone derivs. having hydrolyzable groups 107-18-6D, Allyl alcohol, polymers with unsatd. silicone derivs. having hydrolyzable groups 108-05-4D, Vinyl acetate, polymers with unsatd. silicone derivs. having hydrolyzable groups 109-92-2D, Vinyl ethyl ether, polymers with unsatd. silicone derivs. having hydrolyzable groups 123-20-6D, Vinyl butyrate, polymers with unsatd. silicone derivs. having hydrolyzable groups 126-98-7D, Methacrylonitrile, polymers with unsatd. silicone derivs. having hydrolyzable groups 126-99-8D, Chloroprene, polymers with unsatd. silicone derivs. having hydrolyzable groups 140-88-5D, Ethyl acrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 689-12-3D, Isopropyl acrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 818-61-1, 2-Hydroxyethyl acrylate 868-77-9D, 2-Hydroxyethyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 925-60-0D, Propyl acrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 1337-81-1D, Vinylpyridine, polymers with unsatd. silicone derivs. having hydrolyzable groups 2210-28-8D, Propyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 2235-00-9D, N-Vinylcaprolactam, polymers with unsatd. silicone derivs. having hydrolyzable groups 2680-03-7D, N,N-Dimethylacrylamide, polymers with unsatd. silicone derivs. having hydrolyzable groups 2867-47-2D, Dimethylaminoethyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 2873-97-4D, N-(1,1-Dimethyl-3-oxobutyl)acrylamide, polymers with unsatd. silicone derivs. having hydrolyzable groups 3063-94-3D, Hexafluoroisopropyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 3066-71-5D, Cyclohexyl acrylate, polymers with unsatd. silicone derivs.

having hydrolyzable groups 3195-78-6D, N-Vinyl-N-methylacetamide, polymers with unsatd. silicone derivs. having hydrolyzable groups 5202-78-8D, N-Vinylacetamide, polymers with unsatd. silicone derivs. having hydrolyzable groups 5873-43-8D, Vinyl valerate, polymers with unsatd. silicone derivs. having hydrolyzable groups 7534-94-3D, Isobornyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 13081-44-2D, N-(2-Dimethylaminoethyl)methacrylamide, polymers with unsatd. silicone derivs. having hydrolyzable groups 13162-05-5D, N-Vinylformamide, polymers with unsatd. silicone derivs. having hydrolyzable groups 17096-07-0D, 3-[Tris(trimethylsilyloxy)silyl]propyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 18151-85-4D, 3-Methacryloxypropylpentamethyldisiloxane, polymers with unsatd. silicone derivs. having hydrolyzable groups 18547-93-8D, 1,3-Bis(3-Methacryloxypropyl)tetramethyldisiloxane, polymers with unsatd. silicone derivs. having hydrolyzable groups 25013-15-4D, Vinyltoluene, polymers with unsatd. silicone derivs. having hydrolyzable groups 25584-83-2D, Hydroxypropyl acrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 27813-02-1D, Hydroxypropyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 38785-10-3D, Trifluoroethyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 54174-14-0D, Glycerol methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 76643-43-1D, Hexafluorobutyl methacrylate, polymers with unsatd. silicone derivs. having hydrolyzable groups 94086-93-8D, 2-(Methacryloyloxy)propyltrimethylammonium chloride, polymers with unsatd. silicone derivs. having hydrolyzable groups 1061202-60-5D, Aminopropyl methacrylate hydrochloride, polymers with unsatd. silicone derivs. having hydrolyzable groups 1204770-07-9D, polymers 1204770-08-0D, polymers 1204770-09-1
ROLE: TEM (Technical or engineered material use); USES (Uses)
(silicone-containing polymeric materials with hydrolyzable groups for hydrogel soft contact lenses)

L50 ANSWER 3 OF 12 ZCAPLUS COPYRIGHT 2011 ACS on STN DUPLICATE 3
ACCESSION NUMBER: 2010:352928 ZCAPLUS Full-text
DOCUMENT NUMBER: 152:353415
ENTRY DATE: Entered STN: 19 Mar 2010
TITLE: Continuous non-invasive ophthalmic glucose sensor for diabetics
AUTHOR(S): Domschke, Angelika M.
CORPORATE SOURCE: Duluth, GA, USA
SOURCE: Chimia (2010), 64(1-2), 43-44
CODEN: CHIMAD; ISSN: 0009-4293
PUBLISHER: Swiss Chemical Society

DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 9-5 (Biochemical Methods)
ABSTRACT:
A contact lens with an embedded glucose sensor hologram has been developed for continuous non-invasive monitoring of glucose levels in diabetics. This article describes the development and initial clin. testing of this ophthalmic glucose sensor and provides a comparison to current continuous glucose monitors.

SUPPL. TERM: glucose sensor hologram contact lens diagnosis diabetes; spectroscopy acrylamidophenylboronate hydrogel glucose sensor contact lens
INDEX TERM: Contact lenses
Diabetes mellitus
Diagnosis
Glucose sensors
Human
Hydrogels
Spectroscopy
(contact lens with embedded glucose sensor hologram consisting of 3-acrylamidophenylboronic acid hydrogel for continuous non-invasive monitoring of glucose levels in diabetics)
INDEX TERM: Holography
(reflection; contact lens with embedded glucose sensor hologram consisting of 3-acrylamidophenylboronic acid hydrogel for continuous non-invasive monitoring of glucose levels in diabetics)
INDEX TERM: 50-99-7, Glucose, analysis
ROLE: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(contact lens with embedded glucose sensor hologram consisting of 3-acrylamidophenylboronic acid hydrogel for continuous non-invasive monitoring of glucose levels in diabetics)
INDEX TERM: 99349-68-5, 3-Acrylamidophenylboronic acid
ROLE: ARG (Analytical reagent use); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(contact lens with embedded glucose sensor hologram consisting of 3-acrylamidophenylboronic acid hydrogel for continuous non-invasive monitoring of glucose levels in diabetics)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 13 Sep 2011
OS.CITING.REFS: CAPLUS 2011:1143317
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S): (1) Denisyuk, Y; Opt Spectrosc 1963, V18, P152
(2) Domschke, A; Diabetes Technol Ther 2002, V4, P49
(3) Edelman, S; Diabetes Technol Ther 2009, V11, P68
(4) Garg, S; Diabetes Technol Ther 2009, V11, P65 ZCAPLUS
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(6) Hisamitsu, I; Pharm Res 1997, V14, P289 ZCAPLUS
(7) Kabilan, S; Biosensors Bioelectron 2005, V20, P1602 ZCAPLUS
(8) Kabilan, S; J Mol Recognit 2004, V17, P162 ZCAPLUS
(9) Lee, M; Anal Chem 2004, V76, P5748 ZCAPLUS
(10) March, W; Diabetes Technol Ther 2002, V4, P49
(11) March, W; Diabetes Technol Ther 2004, V6, P49
(12) Srivastav, G; AIOC Proceedings 2006

L50 ANSWER 4 OF 12 ZCAPLUS COPYRIGHT 2011 ACS on STN DUPLICATE 4
ACCESSION NUMBER: 2006:130936 ZCAPLUS Full-text
DOCUMENT NUMBER: 145:119579
ENTRY DATE: Entered STN: 13 Feb 2006
TITLE: Initial clinical testing of a holographic non-invasive contact lens glucose sensor
AUTHOR(S): Domschke, Angelika; March, Wayne F.; Kabilan, Satyamoorthy; Lowe, Christopher
CORPORATE SOURCE: CIBA Vision Corporation, Duluth, GA, USA
SOURCE: Diabetes Technology & Therapeutics (2006), 8(1), 89-93
CODEN: DTTHFH; ISSN: 1520-9156
PUBLISHER: Mary Ann Liebert, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 9-1 (Biochemical Methods)
ABSTRACT:
Introduction: the purpose of the present study was to determine the effectiveness of
a new holog. contact lens glucose sensor for the non-invasive
monitoring of blood glucose. Methods: one fasting normal subject was given
an oral challenge consisting of 44 g of glucose. The contact lens
hologram signal and fingerstick blood glucose were measured over a 26- min
period. Results: the contact lens hologram signal appeared to track blood
glucose well. The contact lens was comfortable and well tolerated.
Conclusion: the holog. contact lens glucose sensor shows promise as a
non-invasive home glucose monitor.

SUPPL. TERM: glucose sensor holog contact lens
INDEX TERM: Biosensors
Contact lenses
Diagnosis
Electronic device fabrication
Glucose sensors
Holography
Human
(initial clin. testing of a holog. non-invasive contact lens glucose sensor)
INDEX TERM: 50-99-7, D-Glucose, analysis

ROLE: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study) (initial clin. testing of a holog. non-invasive contact lens glucose sensor)

INDEX TERM: 7473-98-5, Darocur 1173 99349-68-5, 3-Acrylamidophenyl boronic acid 159073-29-7, Nelfilcon A
ROLE: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); USES (Uses) (initial clin. testing of a holog. non-invasive contact lens glucose sensor)

OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)

DATE LAST CITED: Date last citing reference entered STN: 21 Jun 2011

OS.CITING.REFS: CAPLUS 2011:740788; 2010:841367; 2009:799398; 2009:485976; 2009:92134; 2008:793135; 2008:663156; 2007:734952; 2007:451604; 2007:373809

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S):
(1) Ballerstadt, R; Anal Chim Acta 1997, V345, P203 ZCAPLUS
(2) Friends, G; J Biomed Mater Res 1992, V26, P59 ZCAPLUS
(3) Kabilan, S; Biosensors Bioelectron 2005, V20, P1602 ZCAPLUS
(4) Kabilan, S; J Mol Recognit 2004, V17, P162 ZCAPLUS
(5) Lee, M; Anal Chem 2004, V76, P5748 ZCAPLUS
(6) Lorand, J; J Org Chem 1959, V24, P769 ZCAPLUS
(7) March, W; Bioinstrumentation: Research, Developments and Applications 1990, P31
(8) March, W; Diabetes Care 1982, V5, P259 ZCAPLUS
(9) March, W; Diabetes Technol Ther 2000, V2, P27 ZCAPLUS
(10) March, W; Diabetes Technol Ther 2002, V3, P46
(11) March, W; Diabetes Technol Ther 2002, V4, P49
(12) March, W; Diabetes Technol Ther 2004, V6, P49
(13) March, W; Diabetes Technol Ther 2004, V6, P782 ZCAPLUS
(14) Marshal, A; Anal Chem 2003, V75, P4423
(15) Muller, B; US 5583163 1996 ZCAPLUS
(16) Russell, R; Anal Chem 1999, V71, P3126 ZCAPLUS

L50 ANSWER 5 OF 12 ZCAPLUS COPYRIGHT 2011 ACS on STN DUPLICATE 5

ACCESSION NUMBER: 2005:300731 ZCAPLUS Full-text
DOCUMENT NUMBER: 142:351677
ENTRY DATE: Entered STN: 07 Apr 2005
TITLE: Ophthalmic device comprising a holographic sensor
INVENTOR(S): Lowe, Christopher Robin; Kabilan, Satyamoorthy; Blyth, Jeffrey; Domschke, Angelika; Smith, Dawn; Karangu, Njeri
PATENT ASSIGNEE(S): Smart Holograms Ltd., UK; Ciba Vision Corp.; Cambridge University Technical Services Ltd.
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

CLASSIFICATION: 9-1 (Biochemical Methods)
Section cross-reference(s): 63
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005031442	A1	20050407	WO 2004-GB4093	20040927
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004276949	A1	20050407	AU 2004-276949	20040927
AU 2004276949	B2	20080731		
CA 2540076	A1	20050407	CA 2004-2540076	20040927
EP 1664909	A1	20060607	EP 2004-768637	20040927
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
JP 2007506999	T	20070322	JP 2006-527481	20040927
JP 4566996	B2	20101020		
US 20090021697	A1	20090122	US 2008-32650	20080216
US 7998412	B2	20110816		

PRIORITY APPLN. INFO.:		
GB 2003-22488	A	20030925
GB 2004-1399	A	20040122
GB 2000-209	A	20000107
WO 2001-GB61	W	20010108
US 2002-169502	B2	20020723
WO 2004-GB4093	W	20040927
US 2006-573097	A2	20060323

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2005031442	IPCI	G02C0007-04 [ICM,7]; G01N0021-75 [ICS,7]; G01N0021-77 [ICS,7]; G02B0001-04 [ICS,7]
	IPCR	G01N0021-75 [I,A]; G01N0021-77 [I,A]; G01N0021-78 [N,A]; G02B0001-04 [I,A]
	ECLA	G01N0021-75; G01N0021-77; G02B0001-04B2; S01N0021:75R; S01N0021:77B2D; S01N0021:77H2; S01N0021:78
AU 2004276949	IPCI	G01N0021-75 [I,C*]; G01N0021-77 [I,C*]; G01N0021-77 [I,A]; G01N0021-75 [I,A]; G01N0021-78 [I,A]; G01N0021-75 [I,C*]; G01N0021-75 [I,A]; G01N0021-77 [I,C*]; G01N0021-77 [I,A]; G01N0021-78 [N,A]; G02B0001-04 [I,C*]; G02B0001-04 [I,A]
	IPCR	G01N0021-77 [I,A]; G01N0021-75 [I,A]; G01N0021-78 [I,A]; G02B0001-04 [I,A]
	ECLA	G01N0021-75; G01N0021-77; G02B0001-04B2; S01N0021:75R; S01N0021:77B2D; S01N0021:77H2; S01N0021:78

CA 2540076	IPCI	G01N0021-75 [I,A]; G01N0021-77 [I,A]; G02B0001-04 [I,A]; G02C0007-04 [I,A]
	IPCR	G02C0007-04 [I,A]; G01N0021-75 [I,A]; G01N0021-77 [I,A]; G01N0021-78 [N,A]; G02B0001-04 [I,A]
	ECLA	G01N0021-75; G01N0021-77; G02B0001-04B2; S01N0021:75R; S01N0021:77B2D; S01N0021:77H2; S01N0021:78
EP 1664909	IPCI	G02C0007-04 [ICM,7]; G01N0021-75 [ICS,7]; G01N0021-77 [ICS,7]; G02B0001-04 [ICS,7]
	IPCR	G01N0021-75 [I,A]; G01N0021-77 [I,A]; G01N0021-78 [N,A]; G02B0001-04 [I,A]
	ECLA	G01N0021-75; G01N0021-77; G02B0001-04B2; S01N0021:75R; S01N0021:77B2D; S01N0021:77H2; S01N0021:78
JP 2007506999	IPCI	G02C0007-04 [I,A]; G02B0005-32 [I,A]; G01N0033-483 [I,A]; G01N0021-77 [I,A]; G01N0033-66 [I,A]; G02C0007-04 [I,A]; G02B0005-32 [I,A]; G01N0033-483 [I,A]; G01N0033-66 [I,A]
	IPCR	G02C0007-04 [I,A]; G01N0021-75 [I,A]; G01N0021-77 [I,A]; G01N0021-78 [N,A]; G01N0033-483 [I,A]; G01N0033-66 [I,A]; G02B0001-04 [I,A]; G02B0005-32 [I,A]
	ECLA	G01N0021-75; G01N0021-77; G02B0001-04B2; S01N0021:75R; S01N0021:77B2D; S01N0021:77H2; S01N0021:78
	FTERM	2G045/AA25; 2G045/DA31; 2G045/FA11; 2G054/CA25; 2G054/EA06; 2H006/BB10; 2H006/BC00; 2H006/BC07; 2H006/BE05; 2H049/CA06; 2H049/CA09; 2H049/CA24; 2H049/CA28
US 20090021697	IPCI	A61B0003-125 [I,A]; A61B0005-00 [I,A]; G01N0021-00 [I,A]
	IPCR	A61B0003-125 [I,A]; A61B0005-00 [I,A]
	NCL	351/219.000; 600/309.000; 422/082.050; 436/164.000; 436/165.000; 436/169.000; 436/528.000; 436/529.000; 436/530.000; 436/531.000; 600/300.000; 600/316.000; 600/318.000; 600/319.000
	ECLA	G01N0021-75; A61B0003-125; A61B0005-145G; G01N0021-77; G03H0001-18; S01N0021:75R; S01N0021:77B2D; S01N0021:77H2; S01N0021:78; S03H0001:04D; S03H0001:28

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ABSTRACT:
An ophthalmic device comprises a holog. element comprising a medium and, disposed therein, a hologram, wherein an optical characteristic of the element changes as a result of a variation of a phys. property of the medium, and wherein the variation arises as a result of interaction between the medium and an analyte present in an ocular fluid. The device may be used for the detection of analytes such as glucose.

SUPPL. TERM: ophthalmic device comprising holog sensor

INDEX TERM: Sensors
(Holog.; ophthalmic device comprising a holog. sensor)

INDEX TERM: Apparatus
(Implantable; ophthalmic device comprising a holog. sensor)

INDEX TERM: Eye
(Ocular fluid; ophthalmic device comprising a holog. sensor)

INDEX TERM: Apparatus
(Ophthalmic; ophthalmic device comprising a holog. sensor)
INDEX TERM: Amino group
Contact lenses
Crosslinking
Eye
Fluids
Human
Optical properties
Physical and chemical properties
Polymerization
Reaction
(ophthalmic device comprising a holog. sensor)
INDEX TERM: Polymers, uses
ROLE: DEV (Device component use); USES (Uses)
(ophthalmic device comprising a holog. sensor)
INDEX TERM: Monomers
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(ophthalmic device comprising a holog. sensor)
INDEX TERM: 50-99-7, D-Glucose, analysis
ROLE: ANT (Analyte); ANST (Analytical study)
(ophthalmic device comprising a holog. sensor)
INDEX TERM: 50-21-5, Lactic acid, analysis
ROLE: ARU (Analytical role, unclassified); ANST (Analytical study)
(ophthalmic device comprising a holog. sensor)
INDEX TERM: 98-80-6, Phenylboronic acid
ROLE: DEV (Device component use); USES (Uses)
(ophthalmic device comprising a holog. sensor)
INDEX TERM: 7440-22-4, Silver, miscellaneous
ROLE: MSC (Miscellaneous)
(ophthalmic device comprising a holog. sensor)
INDEX TERM: 79-06-1, Acrylamide, reactions 110-26-9, Methylenebisacrylamide 3845-76-9, N-[3-(Dimethylamino)propyl]acrylamide 6737-24-2, Acrylamidoglycolic acid 24650-42-8, 2-DiMethoxy-2-phenyl-acetophenone 99349-68-5, 3-Acrylamidophenylboronic acid 849146-10-7
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(ophthalmic device comprising a holog. sensor)
OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 16 Feb 2009
OS.CITING.REFS: CAPLUS 2007:538645; 2007:410728; 2006:240734; 2005:1328919
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS

RECORD.

REFERENCE(S): (1) Bradley, M; US 20030103868 A1 2003 ZCAPLUS
(2) British Technology Group Limited; WO 9526499 A1 1995 ZCAPLUS
(3) Everhart, D; US 6579673 B2 2003 ZCAPLUS
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(5) Novartis Erfind Verwalt Gmbh; WO 9934244 A 1999 ZCAPLUS

L50 ANSWER 6 OF 12 ZCAPLUS COPYRIGHT 2011 ACS on STN DUPLICATE 6
ACCESSION NUMBER: 2005:141376 ZCAPLUS Full-text
DOCUMENT NUMBER: 142:194009
ENTRY DATE: Entered STN: 18 Feb 2005
TITLE: Ophthalmic sensor
INVENTOR(S): Chapoy, Lawrence L.; Domschke, Angelika Maria; Smith, Dawn
PATENT ASSIGNEE(S): Novartis A.-G., Switz.; Novartis Pharma G.m.b.H.
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
CLASSIFICATION: 9-16 (Biochemical Methods)
Section cross-reference(s): 63
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005015237	A1	20050217	WO 2004-EP8825	20040806
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1654543	A1	20060510	EP 2004-763860	20040806
EP 1654543	B1	20100707		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
AT 473444	T	20100715	AT 2004-763860	20040806
ES 2350933	T3	20110128	ES 2004-763860	20040806

PRIORITY APPLN. INFO.:	US 2003-493241P	P	20030807
	WO 2004-EP8825	W	20040806

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2005015237	IPCI	G01N0033-66 [ICM,7]; A61B0005-00 [ICS,7]; G01N0033-58 [ICS,7]
	IPCR	G01N0033-58 [I,A]; G01N0033-66 [I,A]
	ECLA	G01N0033-58D; G01N0033-66

EP 1654543	IPCI	G01N0033-66 [I,C]; G01N0033-66 [I,A]; A61B0005-00 [I,C]; A61B0005-00 [I,A]; G01N0033-58 [I,C]; G01N0033-58 [I,A]
	IPCR	G01N0033-58 [I,A]; G01N0033-66 [I,A]
	ECLA	G01N0033-58D; G01N0033-66
AT 473444	IPCI	G01N0033-66 [I,C]; G01N0033-66 [I,A]; A61B0005-00 [I,C]; A61B0005-00 [I,A]; G01N0033-58 [I,C]; G01N0033-58 [I,A]
	IPCR	G01N0033-66 [I,A]; A61B0005-00 [I,A]; G01N0033-58 [I,A]
	ECLA	G01N0033-58D; G01N0033-66
ES 2350933	IPCI	G01N0033-66 [I,A]; A61B0005-00 [I,A]; G01N0033-58 [I,A]
	IPCR	G01N0033-66 [I,A]; A61B0005-00 [I,A]; G01N0033-58 [I,A]
	ECLA	G01N0033-58D; G01N0033-66

OTHER SOURCE(S): MARPAT 142:194009

ABSTRACT:

This invention is generally related to a biocompatible sensor for detecting/measuring sugar, especially glucose, in an ocular fluid in a non-invasive or minimally invasive manner and a method for using the biocompatible sensor. A biocompatible sensor of the invention comprises, consists essentially, or consists of an ophthalmic device comprising a mol. sensing moiety which interacts or, reacts with sugar to provide an optical signal which is indicative of sugar level in an ocular fluid.

SUPPL. TERM: ophthalmic sensor

INDEX TERM: Biocompatibility
Contact lenses
Tear (ocular fluid)
(ophthalmic sensor)

INDEX TERM: 50-99-7, D-Glucose, analysis
ROLE: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(ophthalmic sensor)

INDEX TERM: 406719-91-3 406719-93-5
ROLE: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(ophthalmic sensor)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S):
(1) Abreu; US 2002049389 A1 2002
(2) Asher; US 2001026946 A1 2001 ZCAPLUS
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(6) Dicesare, N; TETRAHEDRON LETTERS 2002, V43(14), P2615 ZCAPLUS
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(13) Shinmori, H; TETRAHEDRON 1995, V51(7), P1893 ZCAPLUS

L50 ANSWER 7 OF 12 ZCAPLUS COPYRIGHT 2011 ACS on STN DUPLICATE 7
ACCESSION NUMBER: 2005:4048 ZCAPLUS Full-text
DOCUMENT NUMBER: 143:40470
ENTRY DATE: Entered STN: 04 Jan 2005
TITLE: Holographic glucose sensors
AUTHOR(S): Kabilan, Satyamoorthy; Marshall, Alexander J.; Sartain, Felicity K.; Lee, Mei-Ching; Hussain, Abid; Yang, Xiaoping; Blyth, Jeff; Karangu, Njeri; James, Karen; Zeng, Jimmy; Smith, Dawn; Domschke, Angelika; Lowe, Christopher R.
CORPORATE SOURCE: Institute of Biotechnology, University of Cambridge, Cambridge, CB2 1QT, UK
SOURCE: Biosensors & Bioelectronics (2005), 20(8), 1602-1610 CODEN: BBIOE4; ISSN: 0956-5663
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 9-16 (Biochemical Methods)
ABSTRACT:
A novel holog. sensor system capable of detecting dynamic changes in glucose concentration has been developed. The hologram is recorded within a bio-compatible hydrogel matrix containing phenylboronic acid derivs. On binding glucose, the color of the hologram red-shifts to longer wavelengths as the hydrogel expands and this color change is used to quantify glucose concentration However, phenylboronic acids are non-selective and bind a wide variety of cis-diols. In blood, glucose is the only sugar found free at high concentration, while other sugars are typically found as part of glycoproteins and macromol. structures. Although glycoproteins have been shown to have no effect on the sensor, phenylboronic acids can bind lactate much more readily than glucose. We have designed two polymer hydrogel systems to increase the selectivity of the sensor for glucose over lactate. The first involved the use of high concns. of 3-acrylamidophenylboronic acid (3-APB) while the second system utilized 2-acrylamido-5-fluorophenylboronic acid (5-F-2-MAPB). Both systems displayed an increased selectivity to glucose over lactate at physiol. pH and ionic strength and could be deployed as selective holog. sensors for glucose detection in physiol. fluids.

SUPPL. TERM: holog glucose sensor phenylboronate
INDEX TERM: Holography
(apparatus; holog. glucose sensors using hydrogel matrix containing phenylboronic acid derivs.)
INDEX TERM: Glucose sensors
Hydrogels
(holog. glucose sensors using hydrogel matrix containing phenylboronic acid derivs.)
INDEX TERM: 50-99-7, D-Glucose, analysis
ROLE: ANT (Analyte); ANST (Analytical study)
(holog. glucose sensors using hydrogel matrix containing phenylboronic acid

derivs.)
INDEX TERM: 98-80-6DP, Phenylboronic acid, derivs.
99349-68-5P, 3-Acrylamidophenylboronic acid
853348-12-6P
ROLE: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(holog. glucose sensors using hydrogel matrix containing phenylboronic acid derivs.)
INDEX TERM: 814-68-6, Acryloyl chloride 30418-59-8, 3-Aminophenylboronic acid 850689-32-6
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(holog. glucose sensors using hydrogel matrix containing phenylboronic acid derivs.)
INDEX TERM: 50-21-5, Lactic acid, analysis
ROLE: ARU (Analytical role, unclassified); ANST (Analytical study)
(interference in glucose determination; holog. glucose sensors using hydrogel matrix containing phenylboronic acid derivs.)
OS.CITING REF COUNT: 50 THERE ARE 50 CAPLUS RECORDS THAT CITE THIS RECORD (50 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 29 Sep 2011
OS.CITING.REFS: CAPLUS 2011:1225408; 2011:1143317; 2011:1031793; 2011:834723; 2010:1490135; 2010:1596514; 2010:1216590; 2010:1183648; 2010:1061518; 2010:965019; 2010:709920; 2010:650773; 2010:659511; 2010:461695; 2010:430797; 2010:352928; 2010:269535; 2010:126617; 2010:79681; 2009:805644; 2009:128069; 2009:378910; 2009:202424; 2008:793135; 2008:663156; 2008:611503; 2008:464452; 2008:342715; 2008:322918; 2008:271079; 2007:1301251; 2007:1199499; 2007:1154354; 2007:893720; 2007:854989; 2007:688510; 2007:556181; 2007:388210; 2007:382879; 2007:373809; 2007:227238; 2007:97080; 2007:79743; 2006:685228; 2006:587414; 2006:158201; 2006:130941; 2006:130936; 2005:1120543; 2005:1059086
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Akala, E; Biomaterials 1998, V19(11-12), P1037 ZCAPLUS
(2) Alexeev, V; Anal Chem 2003, V75(10), P2316 ZCAPLUS
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(4) Asher, S; J Am Chem Soc 2003, V125(11), P3322 ZCAPLUS
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(24) Marshall, A; Anal Chem 2003, V75, P4423 ZCAPLUS
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(30) Norrild, J; J Chem Soc, Perkin Trans 2 2002, V2, P303
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L50 ANSWER 8 OF 12 MEDLINE on STN
ACCESSION NUMBER: 2011856536 IN-PROCESS Full-text
DOCUMENT NUMBER: PubMed ID: 21790271
TITLE: A blueprint for telerehabilitation guidelines-october 2010.
AUTHOR: Brennan David M; Tindall Lyn; Theodoros Deborah; Brown Janet; Campbell Michael; Christiana Diana; Smith David; Cason Jana; Lee Alan
CORPORATE SOURCE: 1 Research Division, National Rehabilitation Hospital , Washington, District of Columbia.
SOURCE: Telemedicine journal and e-health : the official journal of the American Telemedicine Association, (2011 Oct) Vol. 17, No. 8, pp. 662-5. Electronic Publication: 2011-07-26. Journal code: 100959949. E-ISSN: 1556-3669. L-ISSN: 1530-5627.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 24 Sep 2011
Last Updated on STN: 24 Sep 2011

ABSTRACT:
[Formula: see text] Committee Members Co-Chairs David Brennan, M.B.E., Senior Research Engineer, National Rehabilitation Hospital, Washington, District of Columbia. Lyn Tindall, Ph.D., Speech-Language Pathologist, Department of Veterans Affairs Medical Center, Lexington, Kentucky. Writing Committee Janet Brown, M.A., CCC-SLP, Director, Health Care Services, American Speech-Language-Hearing Association, Rockville, Maryland. Mike Campbell, M.S.,

M.B.A., CCC-SLP, Director of the Speech and Hearing Program, The University of North Carolina at Greensboro, Browns Summit, North Carolina. Jana Cason, D.H.S., OTR/L, Assistant Professor, Auerbach School of Occupational Therapy, Louisville, Kentucky. Diana Christiana, M.A.T., CCC-SLP, President/CEO, Clinical Communications, Sugar Land, TX. Alan Lee, Ph.D., P.T., D.P.T., C.W.S., G.C.S., Associate Professor, Mount St. Mary's College, Doctor of Physical Therapy Program, Los Angeles, California. David R. Smith, Director, Telehealth Resource Center, Marquette General Hospital, Marquette, Michigan. Deborah Theodoros, Ph.D., Associate Professor and Head, Division of Speech Pathology, School of Health and Rehabilitative Sciences, The University of Queensland, Queensland, Australia. Contributors Working Group Members [WG], Consultants [C], Reviewers [R], Telerehabilitation Special Interest Group Chair [TR], ATA Standards and Guidelines Committee Member [SG], and ATA Staff [S] Nina Antoniotti, R.N., M.B.A., Ph.D., Chair of SG, Director of Telehealth, Marshfield Clinic, Marshfield, Wisconsin. Jordana Bernard, M.B.A., S, Senior Director, Program Services, American Telemedicine Association, Washington, District of Columbia. Anne Burdick, M.D., M.P.H., SG, Associate Dean for Telemedicine and Clinical Outreach, Professor of Dermatology, Director, Leprosy Program, University of Miami Miller School of Medicine, Miami, Florida. Jerry Cavallerano, Ph.D., OD, SG, Staff Optometrist, Assistant to the Director, Joslin Diabetes Center, Beetham Eye Institute, Boston, Massachusetts. Ellen Cohn, Ph.D., CCC-SLP, TR, WG, Associate Dean for Instructional Development, School of Health and Rehabilitative Sciences, University of Pittsburgh, Pittsburgh, Pennsylvania. Paul Cox, MSEE, WG, President, PERL Research, Huntsville, Alabama. Mary Fran Delaune, P.T., MPT, R, Director, Practice Department, American Physical Therapy Association, Alexandria, Virginia. Matt Elrod, P.T., D.P.T., M.Ed., N.S.C., R, Associate Director, Practice Department, American Physical Therapy Association, Alexandria, Virginia. Brian Grady, M.D., [SG], VISN5 TMH Lead and Director, TeleMental Health, School of Medicine, University of Maryland, Baltimore, Maryland. Elizabeth Krupinski, Ph.D., Vice Chair of SG, Associate Director, Program Evaluation, University of Arizona, Arizona Telemedicine Program, Department of Radiology, Research Professor, Department of Radiology Research, Tucson, Arizona. Jonathan D. Linkous, MPA, S, Chief Executive Director, American Telemedicine Association, Washington, District of Columbia. Michael Pramuka, Ph.D., CRC, WG, Rehabilitation Counselor, Walter Reed Medical Center, Washington, District of Columbia. Richard Schein, Ph.D., WG, Postdoctoral Associate, Department of Rehabilitation Science and Technology, University of Pittsburgh, Pittsburgh, Pennsylvania. Lou Theurer, SG, Grant Administrator, Burn Telemedicine Program, University of Utah Health Sciences Center, Salt Lake City, Utah. Jill Winters, Ph.D., R.N., WG, SG, Dean and Professor, Columbia College of Nursing, Milwaukee, Wisconsin.

L50 ANSWER 9 OF 12 MEDLINE on STN

ACCESSION NUMBER:	1974147497 MEDLINE Full-text
DOCUMENT NUMBER:	PubMed ID: 4274688
TITLE:	High molecular-weight heparan sulfate from the cell surface.
AUTHOR:	Kraemer P M; Smith D A
SOURCE:	Biochemical and biophysical research communications, (1974 Jan 23) Vol. 56, No. 2, pp. 423-30. Journal code: 0372516. ISSN: 0006-291X. L-ISSN: 0006-291X.
PUB. COUNTRY:	United States
DOCUMENT TYPE:	Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:	English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 197406
ENTRY DATE: Entered STN: 10 Mar 1990
Last Updated on STN: 10 Mar 1990
Entered Medline: 19 Jun 1974
CONTROLLED TERM: Check Tags: Female; Male
Animals
Binding Sites
Borohydrides
Cell Line
Cell Membrane: AN, analysis
Chromatography, Gas
Chromatography, Gel
Cricetinae
Dialysis
Glucosamine
*Glycosaminoglycans
Heparitin Sulfate: AN, analysis
Heparitin Sulfate: PH, physiology
Hyaluronoglucosaminidase
Hydrogen-Ion Concentration
Molecular Weight
Ovary
Pronase
Sulfur Radioisotopes
Testis: EN, enzymology
Tritium
Ultracentrifugation
CAS REGISTRY NO.: 10028-17-8 (Tritium); 3416-24-8 (Glucosamine); 9050-30-0 (Heparitin Sulfate)
CHEMICAL NAME: Borohydrides; Glycosaminoglycans; Sulfur Radioisotopes; EC 3.2.1.35 (Hyaluronoglucosaminidase); EC 3.4.24.- (Pronase)
OS.CITING REF COUNT: 7 There are 7 MEDLINE records that cite this record

L50 ANSWER 10 OF 12 BIOSIS COPYRIGHT (c) 2011 The Thomson Corporation on STN
ACCESSION NUMBER: 1970:222911 BIOSIS Full-text
DOCUMENT NUMBER: PREV197051132911; BA51:132911
TITLE: YIELD AND CHEMICAL COMPOSITION OF LEAVES AND STEMS OF ALFALFA-D AT INTERVALS UP THE SHOOTS.
AUTHOR(S): SMITH D
SOURCE: Journal of Agricultural and Food Chemistry, (1970) Vol. 18, No. 4, pp. 652-656.
CODEN: JAFCAU. ISSN: 0021-8561.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
CONCEPT CODE: Biochemistry studies - General 10060
Biochemistry studies - Proteins, peptides and amino acids 10064
Biochemistry studies - Lipids 10066
Biochemistry studies - Carbohydrates 10068
Biochemistry studies - Minerals 10069

Nutrition - General studies, nutritional status and methods 13202
Temperature - General measurement and methods 23001
Plant physiology - Temperature 51503
Plant physiology - Growth, differentiation 51510
Plant physiology - Chemical constituents 51522
Agronomy - Forage crops and fodder 52506

INDEX TERMS: Major Concepts
Agronomy (Agriculture); Biochemistry and Molecular Biophysics; Development; Methods and Techniques; Physiology

INDEX TERMS: Miscellaneous Descriptors
SUGAR FIBER POTASSIUM BORON COPPER FAT CALCIUM MAGNESIUM ALUMINUM BARIUM STRONTIUM MANGANESE STARCH TEMPERATURE PHOSPHORUS IRON ASH ZINC

ORGANISM: Classifier
Leguminosae 26260
Super Taxa
Dicotyledones; Angiospermae; Spermatophyta; Plantae
Taxa Notes
Angiosperms, Dicots, Plants, Spermatophytes, Vascular Plants

REGISTRY NUMBER: 7440-09-7 (POTASSIUM)
7440-42-8 (BORON)
7440-50-8 (COPPER)
7440-70-2 (CALCIUM)
7439-95-4 (MAGNESIUM)
7429-90-5 (ALUMINUM)
7440-39-3 (BARIUM)
7440-24-6 (STRONTIUM)
7439-96-5 (MANGANESE)
9005-25-8 (STARCH)
7723-14-0 (PHOSPHORUS)
7439-89-6 (IRON)
7440-66-6 (ZINC)

L50 ANSWER 11 OF 12 WPIX COPYRIGHT 2011 THOMSON REUTERS on STN
ACCESSION NUMBER: 2005-182103 [200519] WPIX Full-text
DOC. NO. CPI: C2005-058144 [200519]
DOC. NO. NON-CPI: N2005-151918 [200519]
TITLE: Ophthalmic device useful for monitoring an analyte, e.g. glucose level in ocular fluid comprises a hologram-based sensor
DERWENT CLASS: A14; A96; B04; D22; P31; P84; P81; S05
INVENTOR: DOMSCHKE A; DOMSCHKE A M; XIAODONG H; ZHOU J; ZHOU J S; HU X
PATENT ASSIGNEE: (NOVS-C) NOVARTIS AG; (NOVS-C) NOVARTIS PHARMA GMBH; (DOMS-I) DOMSCHKE A M; (HUXX-I) HU X; (ZHOU-I) ZHOU J S; (EYES-N) EYESENSE AG
COUNTRY COUNT: 107

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2005015184	A1	20050217	(200519)*	EN	68[2]	
EP 1651946	A1	20060503	(200629)	EN		
US 20070002470	A1	20070104	(200703)	EN		
US 7927519	B2	20110419	(201128)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2005015184	A1	WO 2004-EP6492	20040616
US 20070002470	A1 Provisional	US 2003-491014P	20030730
EP 1651946	A1	EP 2004-736912	20040616
EP 1651946	A1	WO 2004-EP6492	20040616
US 20070002470	A1	WO 2004-EP6492	20040616
US 20070002470	A1	US 2006-564323	20060803
US 7927519	B2 Provisional	US 2003-491014P	20030730
US 7927519	B2 PCT Application	WO 2004-EP6492	20040616
US 7927519	B2	US 2006-564323	20060803

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 1651946	A1 Based on	WO 2005015184 A
US 7927519	B2 Based on	WO 2005015184 A

PRIORITY APPLN. INFO: US 2003-491014P 20030730
US 2006-564323 20060803

INT. PATENT CLASSIF.:

IPC ORIGINAL: G02B0007-02 [I,A]

IPC RECLASSIF.: A61B0005-00 [N,A]; B29C0035-08 [I,A]; B29D0011-00 [I,A]; G01N0021-77 [I,A]; G03H0001-00 [I,A]

ECLA: A61B0005-145G; A61B0005-1455; B29C0035-08M2; B29D0011-00C4Y2; B29D0011-00J; G01N0021-75; G01N0021-77; G03H0001-00; G03H0001-04F

ICO: K61B0005:145G; L29C0035:08B4; L29C0551:04; S01N0021:77B2G; S01N0021:77H2; S01N0021:77H4

USCLASS NCLM: 264/001.320; 359/819.000

NCLS: 264/001.310

BASIC ABSTRACT:

WO 2005015184 A1 UPAB: 20110503

NOVELTY - Ophthalmic device (D1) comprising a hologram-based sensor for monitoring an analyte level in ocular fluid, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a fluid composition for making a biocompatible sensor (S1) containing a reflection hologram comprising at least one prepolymer, optionally a vinylic monomer, a molecular sensing group associated the prepolymer or vinylic monomer. The sensing group can interact or react with an analyte of interest to provide an optical signal which is indicative of a change in at least one optical property of the reflection holograms; and

(2) making (S1) involving introducing crosslinkable and/or polymerizable fluid material (M1) into a cavity formed by a mold, and producing and recording a pattern of interference fringes while polymerizing/crosslinking (M1) in the cavity to form the biocompatible sensor, thereby recording the pattern the sensor to form reflection hologram. The mold has a first mold half defining a first molding surface and a second mold half defining a second molding surface. The first and second mold half are configured to receive each other such that the cavity is formed between the surfaces.

USE - The device is used for detecting/measuring an analyte (e.g. glucose) level in ocular fluid (claimed).

ADVANTAGE - Production of the biocompatible halographic sensor is cost effective. The device is biocompatible and stable over a long period of time.

MANUAL CODE: CPI: A11-B01; A11-C02B; A12-V02A; A12-V03C2; B04-B04L; B04-C03; B05-B01A; B10-A07A; B11-C04A; B11-C07B6; B11-C08B; B11-C08J; B12-K04A; D09-C01A
EPI: S05-F05

TI Ophthalmic device useful for monitoring an analyte, e.g. glucose level in ocular fluid comprises a hologram-based sensor

TT TT: OPHTHALMIC DEVICE USEFUL MONITOR ANALYTE GLUCOSE LEVEL OCULAR FLUID COMPRISE HOLOGRAM BASED SENSE

IN DOMSCHKE A; DOMSCHKE A M; XIAODONG H; ZHOU J; ZHOU J S; HU X

NOV NOVELTY - Ophthalmic device (D1) comprising a hologram-based sensor for monitoring an analyte level in ocular fluid, is new.

DETD DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a fluid composition for making a biocompatible sensor (S1) containing a reflection hologram comprising at least one prepolymer, optionally a vinylic monomer, a molecular sensing group associated the prepolymer or vinylic monomer. The sensing group can interact or react with an analyte of interest to provide an optical signal which is indicative of a change in at least one optical property of the reflection holograms; and

(2) making (S1) involving introducing crosslinkable and/or polymerizable fluid material (M1) into a cavity formed by a mold, and producing and recording a pattern of interference fringes while polymerizing/crosslinking (M1) in the cavity to form the biocompatible sensor, thereby recording the pattern the sensor to form reflection hologram. The mold has a first mold half defining a first molding surface and a second mold half defining a second molding surface. The first and second mold half are configured to receive each other such that the cavity is formed between the surfaces.

USE

USE - The device is used for detecting/measuring an analyte (e.g. glucose) level in ocular fluid (claimed).

ADV ADVANTAGE - Production of the biocompatible halographic sensor is cost effective. The device is biocompatible and stable over a long period of time.

TECH

INSTRUMENTATION AND TESTING - Preferred Device: (D1) is selected from contact lens, corneal onlay and implantable ophthalmic device (particularly implantable subconjunctival device). (D1) comprises a reflection hologram-based sensor comprising (M1) where a molecular sensing group is incorporated. The group can interact or react with the analyte of interest to provide a signal which is indicative of a change in

at least one optical property of the reflection hologram.
Preferred Components: (M1) is a polymer obtainable by crosslinking and/or polymerizing a prepolymer selected from: a) a polyhydroxy compound having molecular weight of at least about 2000 and comprises poly(vinyl alcohol), of units of formulae (I), (II) and/or (III) (0.5 to ~ 80%); b) a vinyl group-terminated polyurethane which is obtained by reacting an isocyanate-capped polyurethane with an ethytenlcally unsaturated amine (preferably primary or secondary amine) or an ethylenlcally unsaturated monohydroxy compound. The isocyanate-capped polyurethane is a copolymerization product of at least one polyalkylene glycol, a compound containing at least 2 hydroxyl groups, and at least one compound with at least 2 isocyanate groups; or c) a derivative of a polyvinyl alcohol, polyethyleneimine or polyvinylamine containing polyvinyl alcohol, polyethyleneimine or polyvinylamine of the formula
-(CH2-CH(-R4-C(O)C(Ra)(Rb)-NHC(O)-C(Rc)=CH2))-(VI) and
-(CH2CH2N(C(O)C(Ra)(Rb)-NHC(O)-C(Rc)=CH2)) (VII) having average molecular weight 2000 ~ 1,000,000.
(M1) is a polymer obtainable by crosslinking and/or polymerizing a prepolymer selected from a crosslinkable polyacrylamide; a crosslinkable statistical copolymer of a vinyllactam, methyl methacrylate and a comonomer, a crosslinkable copolymer of a vinyllactam, vinyl acetate and vinyl alcohol; a polyalkylene glycol polyether-polyester copolymer with crosslinkable side chain; a branched polyalkylene glycol-urethane prepolymer, a polyalkylene glyco/-tetra(meth)acrylate prepolymer; and a crosslinkable polyallylamlne gluconolactone prepolymer.
(M1) comprises a molecular sensing group that is obtainable by crosslinking and/or polymerizing the crosslinkable and/or polymerizable fluid material in an aqueous solution. The aqueous solution includes a low molecular weight additive (preferably sodium chloride) which exhibit a limited compatibility with a polymer matrix re-suited from the crosslinkable and/or polymerizable fluid material, but good compatibility with water. The additive is present in an amount sufficient to increase refractive index differences between high and low irradiated areas resulted from the pattern of interference fringes. The molecular sensing group is a phenyl boronic acid formula (IV) ~ (VI). (M1) comprises a water soluble prepolymer obtained by reacting an acryloylchloride or an isocyanate group containing (meth)acrylate with polymerization product of NH2 terminated polyalkylene glycol and di/polyisocyanates optionally in the presence of triamine; or reacting an isocyanate-capped polyurethane with ethylenically unsaturated monohydroxy compound. The isocyanate-capped polyurethane is copolymerization product of at least one polyalkylene glycol, a compound containing at least two hydroxyl groups and at least one compound with at least two isocyanate groups.
R = 1-12C alkylene;
R1 = hydrogen or 1-7C lower alkyl;
R2 = olefinically unsaturated, electron-withdrawing, crosslinkable radical having up to 25 carbon atoms (preferably CONH-(R5NHCOO)q-R6-OCOR4 or (CONH-(R5NHCOO)q-R6-O)pCOR4);
R3 = hydrogen, 1-6C alkyl group or alkyl;
R7 = amino or quaternary amino group of the formula N+(R')3X-;
R' = hydrogen or 1-4C alkyl;
X = HSO4-, F-, Cl-, Br-, I-, CH3COO-, OH, BF- or H2PO4;
R8 = the radical of a mono/di/tribasic, saturated or unsaturated organic acid or sulfonic acid;

Ra and Rb = H, 1-8C alkyl, aryl or cyclohexyl;
Rc = H or 1-8C alkyl;
Rd = O or -NH;
R14 and R18 = olefinically unsaturated, crosslinkable radicals;
R15 and R16 = 1-12C alkylene;
R17 = 6-12C arylene, 6-12C saturated bivalent cycloaliphatic group, 7-14C arylenealkylene, 7-14C alkylenearylene or 13-16C arylenealkylenearyfene;
p and q = 0 or 1;
R5 and R6 = 2-8C lower alkylene or R17; and
R4 = 2-24C olefinically unsaturated crosslinkable radical
Preferred Method: Making (S1) containing a reflection hologram involving spraying at least one (M1) onto the first surface of an article and irradiating (M1) with at least two beams of coherent light. The spraying process selected from an air-assisted atomization and dispensing process, an ultrasonic-assisted atomization and dispensing process, a piezoelectric assisted atomization and dispensing process, an electro-mechanical jet printing process, a piezo-electric jet printing process, a plaza-electric with hydrostatic jet printing process, and a thermal jet printing process. Producing and recording occurs by irradiating (M1) with at least two beams of coherent light, where one of the two beams is directed to (M1) through the first molding surface and the other beam is directed to (M1) through at least a portion of the second molding surface. The two beams of coherent light form the pattern while polymerizing/crosslinking (M1) to form the biocompatible sensor. The pattern is recorded in (S1) to form the reflection hologram. (P1) additionally involves partially crosslinking and/or polymerizing (M1) by actinic irradiation, before the step of producing and recording. The partially crosslinking and/or polymerizing is performed by exposing (M1) to a UV light with an energy level sufficient high to initiate crosslinking and/or polymerizing but low enough not to completely cross-link and/or polymerize (M1); or by exposing (M1) to a UV light for a period of time short enough not to completely cross-link and/or polymerize (M1). The method also involves introducing a second (M1) into the cavity formed by the mold; and polymerizing/crosslinking in the cavity to form the biosensor. The coating has the reflection hologram is transferred from one of the molding surfaces into the biosensor and become an integral part of the biosensor during polymerizing/crosslinking of the second (M1) in the cavity

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CROSS REFERENCE: 2002-443846; 2002-674752; 2003-239210; 2009-A71011; 2009-H71947; 2010-B16679; 2010-E16114; 2010-H14318; 2010-M60977
TITLE: Nanoscale articles useful as sensing elements for microneedle probes for implantation into living subjects, comprises free-standing and bulk-doped semiconductors
DERWENT CLASS: A89; B04; D16; L03; Q68; S03; U11; U12
INVENTOR: CUI Y; DUAN X; GUDIKSEN M; GUDIKSEN M S; HUANG Y; LAUHON L J; LIANG W; LIEBER C M; PARK H; SMITH D C; WANG D; WANG J; WEI Q; ZHONG Z
PATENT ASSIGNEE: (CUIY-I) CUI Y; (DUAN-I) DUAN X; (GUDI-I) GUDIKSEN M; (HARD-C) HARVARD COLLEGE; (HUAN-I) HUANG Y; (LAUH-I) LAUHON L J; (LIAN-I) LIANG W; (LIEB-I) LIEBER C M; (PARK-I) PARK H; (SMIT-I) SMITH D C; (WANG-I) WANG D;

(WANG-I) WANG J; (WEIQ-I) WEI Q; (ZHON-I) ZHONG Z
COUNTRY COUNT: 103

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 20030089899	A1	20030515	(200412)*	EN	162[78]	
WO 2004038767	A2	20040506	(200430)	EN		
AU 2003298525	A1	20040513	(200468)	EN		
AU 2003298525	A8	20051103	(200629)	EN		
US 7301199	B2	20071127	(200781)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20030089899	A1 Provisional	US 2000-226835P	20000822
US 20030089899	A1 Provisional	US 2000-254745P	20001211
US 20030089899	A1 Provisional	US 2001-291896P	20010518
US 20030089899	A1 Provisional	US 2001-292035P	20010518
US 20030089899	A1 Provisional	US 2001-292045P	20010518
US 20030089899	A1 Provisional	US 2001-292121P	20010518
US 20030089899	A1 CIP of	US 2001-935776	20010822
US 20030089899	A1 Provisional	US 2001-348313P	20011109
US 20030089899	A1 Provisional	US 2002-354642P	20020206
US 20030089899	A1 CIP of	US 2002-152490	20020520
US 20030089899	A1	US 2002-196337	20020716
AU 2003298525	A1	AU 2003-298525	20030716
AU 2003298525	A8	AU 2003-298525	20030716
WO 2004038767	A2	WO 2003-US22061	20030716
US 7301199	B2 Provisional	US 2000-226835P	20000822
US 7301199	B2 Provisional	US 2000-254745P	20001211
US 7301199	B2 Provisional	US 2001-291896P	20010518
US 7301199	B2 Provisional	US 2001-292035P	20010518
US 7301199	B2 Provisional	US 2001-292045P	20010518
US 7301199	B2 Provisional	US 2001-292121P	20010518
US 7301199	B2 CIP of	US 2001-935776	20010822
US 7301199	B2 Provisional	US 2001-348313P	20011109
US 7301199	B2 CIP of	US 2001-20004	20011211
US 7301199	B2 Provisional	US 2002-354642P	20020206
US 7301199	B2 CIP of	US 2002-152490	20020520
US 7301199	B2	US 2002-196337	20020716
US 7301199	B2 Cont of	US 2002-196337	20020716

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003298525 A1	Based on	WO 2004038767 A
AU 2003298525 A8	Based on	WO 2004038767 A
US 7301199 B2	CIP of	US 7129554 B

PRIORITY APPLN. INFO: US 2002-196337 20020716

US 2002-152490	20020520
US 2002-354642P	20020206
US 2001-348313P	20011109
US 2001-935776	20010822
US 2001-291896P	20010518
US 2001-292035P	20010518
US 2001-292045P	20010518
US 2001-292121P	20010518
US 2000-254745P	20001211
US 2000-226835P	20000822
US 2001-20004	20011211

INT. PATENT CLASSIF.:

MAIN:	B82B003-00
SECONDARY:	C30B011-00; C30B029-60
IPC ORIGINAL:	H01L0029-06 [I,A]; H01L0029-76 [I,A]; H01L0029-94 [I,A]
IPC RECLASSIF.:	C30B0011-00 [I,A]; C30B0025-00 [I,A]; G01N0027-12 [I,A]; G01N0027-414 [I,A]; G01N0033-543 [I,A]; G01Q0070-00 [I,A] ; G11C0011-56 [I,A]; G11C0013-02 [I,A]; H01L0023-532 [I,A]; H01L0029-06 [I,A]; H01L0029-20 [I,A]; H01L0029-207 [I,A]; H01L0029-267 [I,A]; H01L0029-73 [I,A] ; H01L0031-0352 [I,A]; H01L0031-08 [I,A]; H01L0033-18 [N,A]; H01L0051-00 [N,A]; H01L0051-30 [I,A]
ECLA:	B82Y0010-00; B82Y0015-00; B82Y0030-00; C30B0011-00+29/60D; C30B0025-00; C30B0025-00F; C30B0025-00F+29/60D; C30B0029-60; G01N0027-414; G01N0033-543K2; G11C0011-56; G11C0013-02N; G11C0013-02R3; G11C0013-02R3B; H01L0023-532M3; H01L0029-06C6; H01L0029-16G; H01L0029-20B; H01L0029-207; H01L0029-267; H01L0029-73; H01L0031-0352; H01L0031-08; H01L0051-00M4D
ICO:	L82T0201:01S; T01L0033:18; T01L0051:00M4D
USCLASS NCLM:	257/009.000
NCLS:	257/E23.165; 257/E29.081; 257/E29.093; 257/E29.174; 257/E31.032; 257/E31.052; 257/E33.003; 257/E33.005; 850/052.000

BASIC ABSTRACT:

US 20030089899 A1 UPAB: 20090509

NOVELTY - A nanoscale article comprising a free-standing and bulk-doped semiconductor having at least one portion with smallest or maximum width of less than 500 nm, is new. The semiconductor is doped during growth.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a method of detecting analyte by contacting a nanoscopic wire with a sample suspected of containing analyte, e.g. DNA, and determining a change in a property of nanoscopic wire;

(2) a sensor comprising at least one nanoscale wire, and a detector for measuring a change in a property of nanoscale wire;

(3) a method of generating light by applying energy to semiconductor(s), causing the semiconductor to emit light;

(4) a method of assembling elongated structures on a surface by:

(i) conditioning the surface with at least one functionality that attracts the elongated structures to particular positions on the surface, and aligning the elongated structures;

(ii) depositing elongated structures on the surface, and electrically charging the surface to produce electrostatic forces between at least two of the elongated structures;

(iii) dispersing the elongated structures on surface of a liquid-phase to form Langmuir-Blodgett film, compressing the film, and transferring the compressed film on a surface; or

(iv) dispersing the elongated structures in a flexible matrix, stretching the flexible matrix in a direction to produce a shear force on the elongated structures to align the elongated structure in the direction, removing the flexible matrix, and transferring the aligned elongated structures to a surface;

(5) a system for growing doped semiconductor comprising a mechanism for providing molecules of semiconductor substrate and molecules of dopant, and a mechanism for doping molecules of semiconductor with the molecules of dopant during growth of semiconductor;

(6) a system for assembling elongated structures; and

(7) an analyte-gated field effect transistor useful as chemical and/or biological sensor, comprising a substrate of first insulating material, source and drain electrodes disposed on the substrate, a semiconductor nanowire disposed between the source and drain electrodes, and an analyte-specific binding agent disposed on surface of nanowire.

USE - The article is useful as sensing element for a microneedle probe implantable into a living subject. It is designed for use in semiconductor device; computational device; or electrical component such as Schottky diode, photodiode, light-emission source, single photon emitter, photoluminescent device, electroluminescent device, field effect transistor, bipolar junction transistor, single-electron transistor, rectifier, inverter, complimentary inverter, photodetector, p-n solar cell, single photon detector, tunnel diode, light-sensing device, gate, AND gate, NAND gate, OR gate, XOR gate, NOR gate, latch, flip-flop, register, switch, clock circuit, static memory device, dynamic memory device, programmable circuit, amplifier, analog circuit, active transistor, mixed signal device, signal processing circuit, or light-emitting diode. The article may be one of the nanoscopic wire sensors in a sensor array formed on surface of glass, polymer, or silicon dioxide-coated silicon substrate. The article may form sensing elements for an integrated dip-probe sensor, a plug-and-play sensor array (claimed)

ADVANTAGE - The article is capable of simultaneously monitoring physiological characteristics. It is capable of determining oxygen concentration, carbon dioxide concentration and/or glucose levels in a subject.

DESCRIPTION OF DRAWINGS - The figure is a schematic diagram showing nanoscale wire growth by vapor deposition in or on elongated template.

MANUAL CODE: CPI: A12-E01; A12-V03C2; A12-W11L; B05-A01B; B05-A02; B05-A03A; B05-A03B; B05-B02A; B05-B02B; B05-B02C; B05-C03; B05-C04; B05-C08; B10-A07; B11-C04A; B11-C08E6; B12-K04A; D05-H09; D05-H10; D05-H12; D05-H18; L04-C02C; L04-E; L04-E01; L04-E01A; L04-E01D; L04-E03; L04-E05
EPI: S03-E15; U11-C01J3; U11-C02A; U11-C02J7; U11-C18B9; U12-E01B2

TI Nanoscale articles useful as sensing elements for microneedle probes for implantation into living subjects, comprises free-standing and bulk-doped semiconductors

IN CUI Y; DUAN X; GUDIKSEN M; GUDIKSEN M S; HUANG Y; LAUHON L J; LIANG W; LIEBER C M; PARK H; SMITH D C; WANG D; WANG J; WEI Q; ZHONG Z

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(4) a method of assembling elongated structures on a surface by:

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(6) a system for assembling elongated structures; and

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USE

USE - The article is useful as sensing element for a microneedle probe implantable into a living subject. It is designed for use in semiconductor device; computational device; or electrical component such as Schottky diode, photodiode, light-emission source, single photon emitter, photoluminescent device, electroluminescent device, field effect transistor, bipolar junction transistor, single-electron transistor, rectifier, inverter, complimentary inverter, photodetector, p-n solar cell, single photon detector, tunnel diode, light-sensing device, gate, AND gate, NAND gate, OR gate, XOR gate, NOR gate, latch, flip-flop, register, switch, clock circuit, static memory device, dynamic memory device, programmable circuit, amplifier, analog circuit, active transistor, mixed signal device, signal processing circuit, or light-emitting diode. The article may be one of the nanoscopic wire sensors in a sensor array formed on surface of glass, polymer, or silicon dioxide-coated silicon substrate. The article may form sensing elements for an integrated dip-probe sensor, a plug-and-play sensor array (claimed)

ADV ADVANTAGE - The article is capable of simultaneously monitoring physiological characteristics. It is capable of determining oxygen concentration, carbon dioxide concentration and/or glucose levels in a subject.

TECH

INSTRUMENTATION AND TESTING - Preferred Components: The article includes a

core comprising a first semiconductor and at least one shell comprising a semiconductor different from the first semiconductor. The shell surrounds a portion of the core. The core induces a change in the shell. The shell may be an atomic monolayer or an inductive shell. The shell is delta-doped, polarizable, ferromagnetic, mechanically inducible, oxidizable, reducible, or photoactivatable. The article has more than one light-producing region. The semiconductor is elongated and has a longitudinal section. The ratio of length of longitudinal section to a longest width is greater than 4:1 (preferably greater than 1000:1). The semiconductor is a single-walled, multi-walled or unmodified nanoscopic wire having a diameter of 0.5-200 nm and an aspect ratio of more than 2, or a nanotube. It comprises a single crystal.
Preferred Dimensions: The shell has a thickness of less than 5 (preferably less than 1) nm. The smallest width is less than 200 (preferably less than 5) nm. The semiconductor has an aspect ratio of at least 100:1.
Preferred Method: Additional material(s) is applied to a surface of doped semiconductor. The doped semiconductor is grown by applying energy to a collection of molecules including molecules of semiconductor and molecules of dopant. Doping of semiconductor includes controlling an extent of doping by controlling the ratio of an amount of semiconductor molecules to an amount of dopant molecules, vaporizing the molecules using a laser to form vaporized molecules, condensing the vaporized molecules into liquid crystal, and growing the semiconductor from the liquid cluster.
ORGANIC CHEMISTRY - Preferred Components: The shell comprises functional moiety which can be activated by light, amorphous oxide, and/or reaction entity such as nucleic acid, antibody, sugar, carbohydrate, protein, or catalyst. The functional moiety is hydroxy, formyl, carboxy, sulfo, cyano, amino, mercapto, thiocarboxy, oxycarbonyl and/or halide, methyl, hydrazide, aldehyde, aryl azide, fluorinated aryl azide, or benzophenone.
POLYMERS - Preferred Components: The functional moiety may comprise a polymer chain having a chain length of less than the diameter of nanoscopic wire. The polymer is polyamide, polyester, polyimide, and/or polyacrylic. The functional moiety comprises a thin coating of metallic element, oxide, sulfide, nitride, selenide, polymer, or polymer gel covering the surface of nanoscopic wire.
INORGANIC CHEMISTRY - Preferred Material: The semiconductor comprises elemental semiconductor, e.g. silicon, germanium, tin, selenium, tellurium, boron, diamond, or phosphorus; or solid solution of elemental semiconductor, e.g. boron carbide, boron hexaphosphide, boron silicide, silicon carbide, silicon germanium, silicon tin, or germanium tin. The semiconductor may comprise IV-IV semiconductor, e.g. silicon carbide; III-V semiconductor, e.g. boron nitride/boron phosphide/boron arsenide, aluminum nitride/aluminum phosphide/aluminum arsenide/aluminum antimonide, gallium nitride/gallium phosphide/gallium arsenide/gallium antimonide, and/or indium nitride/indium phosphide/indium arsenide/indium antimonide; II-VI semiconductor, e.g. zinc oxide/zinc sulfide/zinc selenide/zinc telluride, cadmium sulfide/cadmium selenide/cadmium telluride, mercury sulfide/mercury selenide/mercury telluride, or beryllium sulfide/beryllium selenide/beryllium telluride/magnesium sulfide/magnesium selenide; IV-VI semiconductor, e.g. germanium sulfide, germanium selenide, germanium telluride, tin sulfide, tin selenide, tin telluride, lead oxide, lead sulfide, lead selenide, or lead telluride; I-VII semiconductor, e.g. copper fluoride, copper chloride, copper bromide, copper iodide, silver fluoride, silver chloride,

silver bromide, or silver iodide; and beryllium silicon nitride (BeSiN2), calcium carbon nitride (CaCN2), zinc germanium phosphide (ZnGeP2), cadmium tin arsenide (CdSnAs2), zinc tin antimonide (ZnSnSb2), copper germanium phosphide (CuGeP3), copper silicon phosphide (CuSi2P3), (Cu, Ag)(Al, Ga, In, Tl, Fe)(S, Se, Te)2, silicon nitride (Si3N4), germanium nitride (Ge3N4), aluminum oxide, (Al, Ga, In)2(S, Se, Te)3, or aluminum carbon oxide (Al2CO). The semiconductor comprises p-type dopant, e.g. boron, aluminum, indium, magnesium, zinc, cadmium, mercury, carbon, or silicon; and/or n-type dopant, e.g. phosphorus, arsenide, antimony, silicon, germanium, tin, sulfur, selenium, or tellurium.

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USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Aug 2011

ZCAplus now includes complete International Patent Classification (IPC)
reclassification data for the second quarter of 2011.
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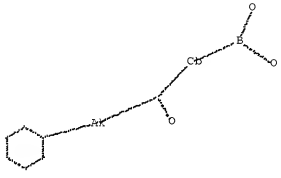
L7 STR



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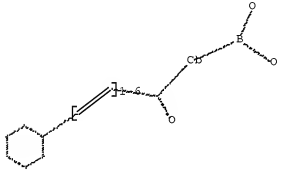
L10 STR



Structure attributes must be viewed using STN Express query preparation.
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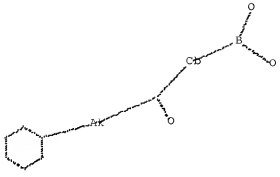
L13 18 SEA FILE=ZCAPLUS SPE=ON ABB=ON PLU=ON L12

=> d stat que L27
L7 STR



Structure attributes must be viewed using STN Express query preparation.

```
L9            26 SEA FILE=REGISTRY SSS FUL L7
L10              STR
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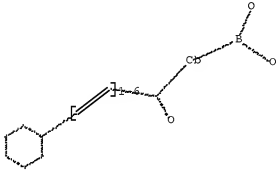

Structure attributes must be viewed using STN Express query preparation.

```
L12           16 SEA FILE=REGISTRY SUB=L9 SSS FUL L10
L13           18 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  L12
L14            2 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  GLUCOSE/CN
L15       699325 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  L14 OR ?GLUCOS?
L16       325389 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  ?SACCHARID?
L17          490 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  ?OPTHALM?
L18        32416 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  ?OPHTHALM?
L19       166464 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  EYE
L20       717477 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  ?FLUORESC?
L21      1438953 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  OPTIC?
L22       444462 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  SENSOR?
L23        25592 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  OCULAR?
L24         7970 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  CONTACT LEN?
L25      2633827 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  POLYMER?
L26       125187 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  SENSING?
```

```
L27          11 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  L13 AND (L15 OR L16
                OR L17 OR L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25
                OR L26)


=> d stat que L30
L7               STR
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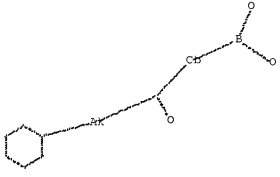

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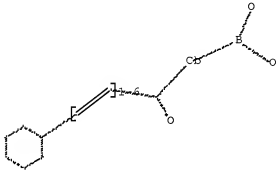
Structure attributes must be viewed using STN Express query preparation.
L9           26 SEA FILE=REGISTRY SSS FUL L7
L10              STR
```



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Structure attributes must be viewed using STN Express query preparation.
L12          16 SEA FILE=REGISTRY SUB=L9 SSS FUL L10
L13          18 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  L12
L29      411686 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  SUGAR?
L30           4 SEA FILE=ZCAPLUS SPE=ON  ABB=ON  PLU=ON  L13 AND L29


=> d stat que L31
L7               STR
```
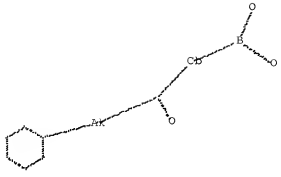
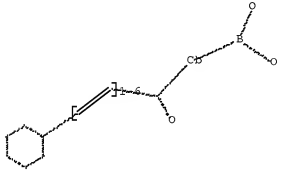



Structure attributes must be viewed using STN Express query preparation.
L9 26 SEA FILE=REGISTRY SSS FUL L7
L10 STR



Structure attributes must be viewed using STN Express query preparation.
L12 16 SEA FILE=REGISTRY SUB=L9 SSS FUL L10
L13 18 SEA FILE=ZCAPLUS SPE=ON ABB=ON PLU=ON L12
L31 4 SEA FILE=ZCAPLUS SPE=ON ABB=ON PLU=ON BLOOD? AND L13

=> s L13 or L27 or L30 or L31
L51 18 L13 OR L27 OR L30 OR L31

=> d iall hitstr L51 1-18

L51 ANSWER 1 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2011:236462 ZCAPLUS Full-text
DOCUMENT NUMBER: 154:284035
ENTRY DATE: Entered STN: 24 Feb 2011
TITLE: Preparation of boronic acid derivatives of resveratrol

for use in the treatment of cancer
INVENTOR(S): Brown, Milton L.; Yenugonda, Venkata M.; Kong, Yali
PATENT ASSIGNEE(S): Georgetown University, USA
SOURCE: PCT Int. Appl., 85pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
CLASSIFICATION: 26-9 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 1, 29, 63
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

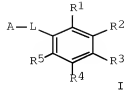
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2011022502	A1	20110224	WO 2010-US45925	20100818

W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2009-234991P P 20090818
PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2011022502	IPCI	C07F0005-02 [I,A]; A61K0031-69 [I,A]
	IPCR	C07F0005-02 [I,A]; A61K0031-69 [I,A]
	ECLA	C07F0005-02C

OTHER SOURCE(S): CASREACT 154:284035; MARPAT 154:284035
GRAPHIC IMAGE:



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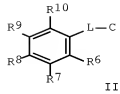
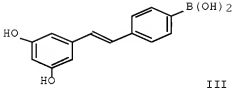
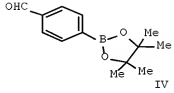


II



III



IV

ABSTRACT:
Disclosed are compds. A-L-C [A is (un)substituted cycloalkyl, aryl, heteroaryl, heterocyclyl; L is present or absent, when present L is a linker; C is an (un)substituted cycloalkyl, aryl, heteroaryl, heterocyclyl, wherein at least one position in the compds. is substituted with B(OH)2, and at least one position in the compound is substituted with alkoxy, alkoxydialkylamino or hydroxy], or a pharmaceutically acceptable, salt, prodrug, clathrate, tautomer or solvate thereof and methods related to boronic acid derivs. of resveratrol. Further disclosed are compds. I [R1 - R5 are independently, H, B(OH)2, mild Lewis acid, strong acid, weak acid, alkyl, alkenyl, alkynyl, halogen, alkoxy, NH2, alkylamino, dialkylamino, CN, NO2, CHO, CO2H, alkoxycarbonyl, alkoxydialkylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, haloalkyl, haloalkoxy, haloalkylamino, di(haloalkyl)amino or sugars; L, when present, is C1-6-alkyl, C2-6-alkenyl, aryl, heteroaryl, cycloalkyl, heterocyclyl, P-Q-S; wherein P = C1-6-alkyl, C2-6-alkenyl, aryl, heteroaryl, cycloalkyl, heterocyclyl; Q is NR11, O, S, C(:O); R11 = H or C1-3-alkyl; S is present or absent and when present is C1-6-alkyl, C2-6-alkenyl, aryl, heteroaryl, cycloalkyl or heterocyclyl] and II [R6 - R10 are independently, H, B(OH)2, mild Lewis acid, strong acid, weak acid, alkyl, alkenyl, alkynyl, halogen, alkoxy, NH2, alkylamino, dialkylamino, CN, NO2, CHO, CO2H, alkoxycarbonyl, alkoxydialkylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, haloalkyl, haloalkoxy, haloalkylamino, di(haloalkyl)amino or sugars; R8 and R9 are optionally cyclized to form cycloalkyl, aryl, heteroaryl or heterocyclyl, optionally substituted with B(OH)2]. Thus, YK-5-104 (III) was prepared from 3,5-dimethoxybenzyl bromide via phosphinylation with PPh3 in THF; Wittig reaction with pinacolborane IV in THF containing BuLi/hexane; flash column chromatog. separation of cis/trans isomers; and O-demethylation/de-esterification with BBr3 in CH2Cl2. Certain of these derivs. have enhanced efficacy relative to resveratrol, function as irreversible modulators, and act at the G1/S phase of the cell cycle. The biol. and pharmacol. activity of III was determined [GI50 = 36.6 μM WST-1 cell survival assay; GI50 = 31.10 μM vs. breast cancer (MCF-7 cell line); GI50 = 49.09 vs. breast cancer (multidrug resistant CL 10.3 cell line)].

SUPPL. TERM: resveratrol boronic acid deriv prepn cancer treatment irreversible modulator; cell cycle irreversible modulator resveratrol boronic acid deriv

INDEX TERM: Multidrug resistance
(CL 10.3 cell line; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)

INDEX TERM: Cell cycle regulatory proteins
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(G1, expression level, irreversible modulators; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)

INDEX TERM: Interphase (cell cycle)
(G1/S boundary, irreversible modulators; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)

INDEX TERM: Animal cell line
(MCF-7; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)

INDEX TERM: Antiproliferative agents
(irreversible; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)

INDEX TERM: Antitumor agents
Apoptosis
Human
Mammary gland, neoplasm
Neoplasm
(preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)

INDEX TERM: Boronic acids
ROLE: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(resveratrol derivs.; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)

INDEX TERM: Natural products
(stilbenes, resveratrol boronic acid derivs.; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)

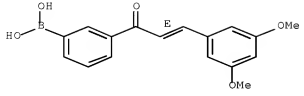
INDEX TERM: Estrogen receptors
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(α, expression of, by cancer; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)

INDEX TERM: Estrogen receptors
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(β, expression of, by cancer; preparation of boronic acid

derivs. of resveratrol for use in the treatment of cancer)
INDEX TERM: 637-69-4P, 4-Methoxystyrene
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(Suzuki coupling reaction of, with (iodophenyl)boronate derivative; preparation of boronic acid derivs. of resveratrol for
use in the treatment of cancer)
INDEX TERM: 128376-64-7
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(Wittig reaction of, with benzylphosphonate or benzylphosphonium bromide derivs.; preparation of boronic acid
derivs. of resveratrol for use in the treatment of cancer)
INDEX TERM: 877-88-3, 3,5-Dimethoxybenzyl bromide
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(phosphinylation or phosphitylation of; preparation of boronic
acid derivs. of resveratrol for use in the treatment of cancer)
INDEX TERM: 344324-66-9
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(phosphitylation of; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)
INDEX TERM: 24131-30-4P, (3,5-Dimethoxybenzyl)triphenylphosphonium bromide
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepared and Wittig reaction of, with (formylphenyl)boronic acid pinacol ester; preparation of boronic acid derivs. of resveratrol for use in the
treatment of cancer)
INDEX TERM: 108957-75-1P, Diethyl (3,5-dimethoxybenzyl)phosphonate
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and Horner-Wadsworth-Emmons reaction of, with (formylphenyl)boronate; preparation of boronic acid derivs. of
resveratrol for use in the treatment of cancer)
INDEX TERM: 868629-88-3P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and O-demethylation/deesterification of; preparation
of boronic acid derivs. of resveratrol for use in the
treatment of cancer)
INDEX TERM: 1073338-99-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and Suzuki coupling reaction of, with vinylanisole; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)

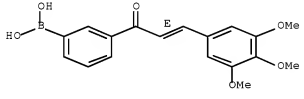
INDEX TERM: 1266682-75-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deesterification of; preparation of boronic acid
derivs. of resveratrol for use in the treatment of cancer)
INDEX TERM: 1266682-77-2P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deesterification or O-demethylation/deesterification of; preparation of boronic acid derivs. of resveratrol for use in the treatment of cancer)
INDEX TERM: 1266682-73-8P 1266682-74-9P 1266682-76-1P
1266682-78-3P 1266682-79-4P 1266682-80-7P
1266682-81-8P 1266682-82-9P 1266682-83-0P
1266682-84-1P 1266682-85-2P
1266682-86-3P 1266682-87-4P 1266682-88-5P
1266682-89-6P 1266682-90-9P 1266682-91-0P
1266682-92-1P
ROLE: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of boronic acid derivs. of resveratrol for use in
the treatment of cancer)
INDEX TERM: 501-36-0, Resveratrol 33069-62-4, Paclitaxel
ROLE: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(preparation of boronic acid derivs. of resveratrol for use in
the treatment of cancer)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Das, B; TETRAHEDRON LETTERS 2009, P3031 ZCAPLUS
(2) Dicesare, N; JOURNAL OF PHYSICS CHEMISTRY A 2001, P6834 ZCAPLUS
(3) Japan Science & Tech Agency; JP 2005306865 A 2005 ZCAPLUS
(4) yenugonda, V; ACS: "Abstract of Papers, 238th ACS National Meeting" 2009
IT 1266682-84-1P 1266682-85-2P 1266682-86-3P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of boronic acid derivs. of resveratrol for use in the treatment
of cancer)
RN 1266682-84-1 ZCAPLUS
CN Boronic acid, B-[3-[(2E)-3-(3,5-dimethoxyphenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



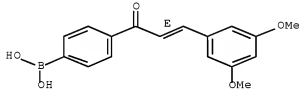
RN 1266682-85-2 ZCAPLUS
CN Boronic acid, B-[3-[(2E)-1-oxo-3-(3,4,5-trimethoxyphenyl)-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



RN 1266682-86-3 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3,5-dimethoxyphenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



L51 ANSWER 2 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2010:82926 ZCAPLUS Full-text
DOCUMENT NUMBER: 152:350293
ENTRY DATE: Entered STN: 21 Jan 2010
TITLE: A boronic acid chalcone analog of combretastatin A-4 as a potent anti-proliferation agent
AUTHOR(S): Kong, Yali; Wang, Kan; Edler, Michael C.; Hamel, Ernest; Mooberry, Susan L.; Paige, Mikell A.; Brown, Milton L.

CORPORATE SOURCE: Department of Oncology, Drug Discovery Program, Georgetown University Medical Center, Washington, DC, 20057, USA
SOURCE: Bioorganic & Medicinal Chemistry (2010), 18(2), 971-977
CODEN: BMECEP; ISSN: 0968-0896
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 1-3 (Pharmacology)
Section cross-reference(s): 25
OTHER SOURCE(S): CASREACT 152:350293
ABSTRACT:
Chalcones represent a class of natural products that inhibits tubulin assembly. In this study we designed and synthesized boronic acid analogs of chalcones in an effort to compare biol. activities with combretastatin A-4, a potent inhibitor of tubulin polymerization. Systematic evaluation of the positional effects
of the carbonyl moiety towards inhibition of tubulin polymerization, cancer cell proliferation and angiogenesis revealed that placement of the carbonyl adjacent to the trimethoxybenzene A-ring resulted in more active compds. than when the carbonyl group was placed adjacent to the C-ring. Our study identified a boronic acid chalcone with inhibition towards 16 human cancer cell lines in the 10-200 nM range, and another three cell lines with GI50-values below 10 nM. Furthermore, this drug has significant anti-angiogenesis effects demonstrated by HUVEC tube formation and aortic ring assay.

SUPPL. TERM: boronic acid chalcone analog combretastatin prepn antitumor angiogenesis structure
INDEX TERM: Antiangiogenic agents
Antitumor agents
Central nervous system, neoplasm
Colon neoplasm
Human
Kidney, neoplasm
Mammary gland, neoplasm
Melanoma
Non-small-cell lung carcinoma
Ovary, neoplasm
Prostate gland, neoplasm
Structure-activity relationship
(boronic acid chalcone analogs of combretastatin A-4 preparation as potential antitumor agents)
INDEX TERM: Tubulins
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(boronic acid chalcone analogs of combretastatin A-4 preparation as potential antitumor agents)
INDEX TERM: 181644-49-5P 1215281-19-8P 1215281-21-2P 1215281-22-3P
ROLE: DMA (Drug mechanism of action); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(boronic acid chalcone analogs of combretastatin A-4 preparation as potential antitumor agents)
INDEX TERM: 117048-59-6, Combretastatin A-4
ROLE: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(boronic acid chalcone analogs of combretastatin A-4 preparation as potential antitumor agents)
INDEX TERM: 86-81-7 578-57-4 621-59-0 1131-62-0 1136-86-3 127972-02-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(boronic acid chalcone analogs of combretastatin A-4 preparation as potential antitumor agents)
INDEX TERM: 6100-74-9P 35310-75-9P 81224-34-2P 1215281-20-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(boronic acid chalcone analogs of combretastatin A-4 preparation as potential antitumor agents)
INDEX TERM: 866824-84-2
ROLE: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(boronic acid chalcone analogs of combretastatin A-4 preparation as potential antitumor agents)
OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 12 Sep 2011
OS.CITING.REFS: CAPLUS 2011:993054; 2011:979897; 2011:567539; 2011:443531; 2010:1085552; 2010:1058412
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Anon; http://dtp.nci.nih.gov/branches/btb/ivclsp.html
(2) Autom, R; Cancer Lett 1995, V97, P33
(3) Brossi, A; J Org Chem 1967, V32, P1269 ZCAPLUS
(4) Dhar, D; J Org Chem 1958, V23, P1159 ZCAPLUS
(5) Dicesare, N; Tetrahedron Lett 2002, V43, P2615 ZCAPLUS
(6) Ducki, S; Bioorg Med Chem Lett 1998, V8, P1051 MEDLINE
(7) Edwards, M; J Med Chem 1990, V33, P1948 ZCAPLUS
(8) Hamel, E; Cell Biochem Biophys 2003, V38, P1 ZCAPLUS
(9) Ikeda, S; JP 08188546 1996 ZCAPLUS
(10) Kong, Y; Chem Biol 2005, V12, P1007 ZCAPLUS
(11) Kumar, S; J Med Chem 2003, V46, P2813 ZCAPLUS
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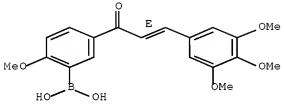
IT 1215281-21-2P
RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study);

PREP (Preparation); USES (Uses)
(boronic acid chalcone analogs of combretastatin A-4 preparation as potential antitumor agents)
RN 1215281-21-2 ZCAPLUS
CN Boronic acid, B-[2-methoxy-5-[(2E)-1-oxo-3-(3,4,5-trimethoxyphenyl)-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



L51 ANSWER 3 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2010:51187 ZCAPLUS Full-text
DOCUMENT NUMBER: 152:169553
ENTRY DATE: Entered STN: 14 Jan 2010
TITLE: Trapping glucose probe in pores of polymer
INVENTOR(S): Chow, Pei Yong Edwin; Ying, Jackie Y.
PATENT ASSIGNEE(S): Agency for Science, Technology and Research, Singapore
SOURCE: PCT Int. Appl., 42pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
CLASSIFICATION: 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2010005398	A1	20100114	WO 2009-SG245	20090709
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
EP 2318443	A1	20110511	EP 2009-794748	20090709
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,				

IE, IS, IT, LI, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, AL, BA, RS

US 20110136929 A1 20110609 US 2011-2800 20110106
PRIORITY APPLN. INFO.: US 2008-129646P P 20080709
WO 2009-SG245 W 20090709

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2010005398	IPCI	C08F0002-32 [I,A]; G01N0021-64 [I,A]; A61B0005-00 [I,A]; G02C0007-04 [I,A]
	IPCR	C08F0002-32 [I,A]; A61B0005-00 [I,A]; G01N0021-64 [I,A]; G02C0007-04 [I,A]
	ECLA	G01N0021-77; A61B0005-145G; A61B0005-1455; C08F0002-22; S01N0021:77B2G; S01N0021:77H6; S01N0021:78
EP 2318443	IPCI	C08F0002-32 [I,A]; G01N0021-64 [I,A]; A61B0005-00 [I,A]; G02C0007-04 [I,A]
	IPCR	C08F0002-32 [I,A]; A61B0005-00 [I,A]; G01N0021-64 [I,A]; G02C0007-04 [I,A]
	ECLA	G01N0021-77; A61B0005-145G; A61B0005-1455; C08F0002-22; S01N0021:77B2G; S01N0021:77H6; S01N0021:78
US 20110136929	IPCI	C08J0009-00 [I,A]; C08L0033-10 [I,A]
	NCL	521/105.000; 521/149.000

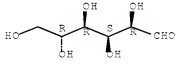
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): MARPAT 152:169553
ABSTRACT:
This invention relates to a polymer matrix defining pores that is formed by polymerizing polymer precursors in a precursor solution The precursor solution comprises a bicontinuous microemulsion of a first fluid in a first continuous phase and a second fluid in a second continuous phase. The first fluid comprises the polymer precursors. The second fluid comprises the glucose probe. Some internal pores are connected to surface pores in the matrix through openings sized to allow passage of glucose mols. but restrict passage of the glucose probe. As the glucose probe is dispersed in the precursor solution prior to polymerization, some glucose probe mols. are trapped in the internal pores after polymerization The formed polymer may be used in an ophthalmic device such as contact lens, for detecting the presence of glucose in an ocular fluid.

SUPPL. TERM: contact lenses porous membrane; glucose probe; boronic acid; radical polymn
INDEX TERM: Microemulsions
(bicontinuous; trapping glucose probe in pores of polymer)
INDEX TERM: Apparatus
(ophthalmic; trapping glucose probe in pores of polymer)
INDEX TERM: Porous materials
(polymer; trapping glucose probe in pores of polymer)
INDEX TERM: Membranes, nonbiological
(polymeric; trapping glucose probe in pores of polymer)
INDEX TERM: Polymerization
(radical; trapping glucose probe in pores of

polymer)
INDEX TERM: Contact lenses
(trapping glucose probe in pores of polymer)
INDEX TERM: 97-90-5, Ethyleneglycol dimethacrylate
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(crosslinker; trapping glucose probe in pores of polymer)
INDEX TERM: 24650-42-8, 2,2-Dimethoxy-2-phenyl acetophenone
ROLE: CAT (Catalyst use); USES (Uses)
(initiator; trapping glucose probe in pores of polymer)
INDEX TERM: 197648-90-1
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(macromonomer; trapping glucose probe in pores of polymer)
INDEX TERM: 80-62-6, Methyl methacrylate 868-77-9
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(trapping glucose probe in pores of polymer)
INDEX TERM: 94-41-7, 1,3-Diphenylprop-2-en-1-one 614-57-3, 1,5-Diphenylpenta-2,4-dien-1-one 13780-71-7D, Boronic acid, unsubstituted or alkyl, aryl or combination substituted boronic acid 58367-01-4, Glucose 406719-92-4, Chalc-1
ROLE: TEM (Technical or engineered material use); USES (Uses)
(trapping glucose probe in pores of polymer)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Agency For Science Technology And Research; WO 2006014138 A1 2006 ZCAPLUS
(2) Chapoy; US 20070030443 A1 2007
(3) Geddes; US 20070020182 A1 2007 ZCAPLUS
(4) March; US 20030045783 A1 2003
(5) Suri; US 20080027245 A1 2008 ZCAPLUS

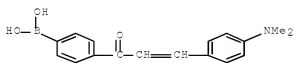
IT 58367-01-4, Glucose 406719-92-4, Chalc-1
RL: TEM (Technical or engineered material use); USES (Uses)
(trapping glucose probe in pores of polymer)
RN 58367-01-4 ZCAPLUS
CN Glucose (CA INDEX NAME)

Relative stereochemistry.



RN 406719-92-4 ZCAPLUS

CN Boronic acid, B-[4-[3-[4-(dimethylamino)phenyl]-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)



L51 ANSWER 4 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER:	2009:1339654 ZCAPLUS Full-text
DOCUMENT NUMBER:	151:564335
ENTRY DATE:	Entered STN: 02 Nov 2009
TITLE:	Pharmacophore Modeling for Qualitative Prediction of Antiestrogenic Activity
AUTHOR(S):	Brogi, Simone; Kladi, Maria; Vagias, Constantinos; Papazafiri, Panagiota; Roussis, Vassilios; Tafi, Andrea
CORPORATE SOURCE:	Dipartimento Farmaco Chimico Tecnologico, Universita degli Studi di Siena, Siena, I-53100, Italy
SOURCE:	Journal of Chemical Information and Modeling (2009), 49(11), 2489-2497 CODEN: JCISD8; ISSN: 1549-9596
PUBLISHER:	American Chemical Society
DOCUMENT TYPE:	Journal
LANGUAGE:	English
CLASSIFICATION:	1-3 (Pharmacology)

ABSTRACT:

A ligand-based pharmacophore approach for the prediction of antiestrogenic activity to be used as an in silico screening tool for bioactive compds. including natural products was developed using Catalyst HypoGen. The generated pharmacophore hypothesis (HYPO-7) consisted of five features, namely, one hydrophobic (HY1), two hydrophobic aromatic (HY2), one hydrogen-bond acceptor (HBA), and one hydrogen-bond donor (HBD). HYPO-7 successfully predicted the lack of cytotoxicity of a number of new metabolites isolated from the red alga Laurencia glandulifera. Furthermore, a screening of the Asinex Gold Collection database was performed by coupling HYPO-7 with a docking filtration, which resulted in a restricted set of 12 new scaffolds to be investigated as potential SERMs. The inhibitory activity of these compds. was evaluated in vitro using MCF7 human breast adenocarcinoma cell line. Ten out of the twelve compds. exhibited inhibitory activity with IC50 values between 26 and 188 μM. This result shows that application of HYPO-7 could assist in the selection of potentially active compds., thus expediting the hit discovery process.

SUPPL. TERM:	pharmacophore modeling antiestrogen drug screening discovery
INDEX TERM:	Mammary gland, neoplasm (adenocarcinoma; pharmacophore modeling for qual. prediction of antiestrogenic activity)
INDEX TERM:	Estrogen receptors

ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(binding to; pharmacophore modeling for qual. prediction of antiestrogenic activity)
INDEX TERM: Human
(cell line; pharmacophore modeling for qual. prediction of antiestrogenic activity)
INDEX TERM: Protein motifs
(ligand binding domain, of estrogen receptor; pharmacophore modeling for qual. prediction of antiestrogenic activity)
INDEX TERM: Adenocarcinoma
(mammary adenocarcinoma; pharmacophore modeling for qual. prediction of antiestrogenic activity)
INDEX TERM: Antiestrogens
Antitumor agents
Drug discovery
Hydrogen bond
Hydrophobicity
Laurencia glandulifera
Molecular modeling
Natural products, pharmaceutical
Pharmacophores
Selective estrogen receptor modulators
(pharmacophore modeling for qual. prediction of antiestrogenic activity)
INDEX TERM: Drug screening
(virtual; pharmacophore modeling for qual. prediction of antiestrogenic activity)
INDEX TERM: 446-72-0 486-66-8 614-46-0 7728-73-6 16982-00-6
57766-60-6 57794-64-6 59403-81-5 63676-22-2
84449-90-1, Raloxifene 86161-35-5 104714-15-0
124526-56-3, [1,1':3',1''-Terphenyl]-4,4''-diol
139407-74-2 168766-36-7 302952-72-3 306752-82-9
315707-07-4 330674-11-8 331271-35-3 335206-32-1
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1197188-90-1 1197188-91-2 1197188-93-4 1197188-94-5
1197188-95-6 1197188-96-7 1197188-97-8 1197188-98-9
ROLE: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmacophore modeling for qual. prediction of antiestrogenic activity)
OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

DATE LAST CITED: Date last citing reference entered STN: 12 Sep 2011
OS.CITING.REFS: CAPLUS 2011:898875; 2011:918943; 2011:704341; 2010:809214
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Accelrys Inc; http://accelrys.com/references/case-studies/training-set-selection.html

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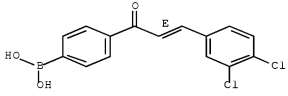
IT 562823-90-9 562823-91-0 562823-92-1
562823-93-2 1197188-80-9
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmacophore modeling for qual. prediction of antiestrogenic

activity)
RN 562823-90-9 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3,4-dichlorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



RN 562823-91-0 ZCAPLUS
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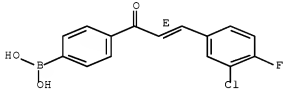
Double bond geometry as shown.



RN 562823-92-1 ZCAPLUS
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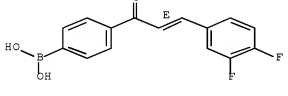
Double bond geometry as shown.



RN 562823-93-2 ZCAPLUS
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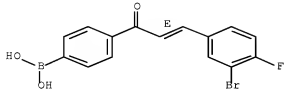
Double bond geometry as shown.



RN 1197188-80-9 ZCAPLUS
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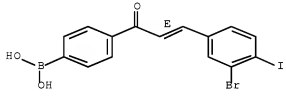
Double bond geometry as shown.



L51 ANSWER 5 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2009:480379 ZCAPLUS Full-text
DOCUMENT NUMBER: 151:48488
ENTRY DATE: Entered STN: 22 Apr 2009
TITLE: Chalcones in cancer: understanding their role in terms of QSAR
AUTHOR(S): Katsori, A.-M.; Hadjipavlou-Litina, D.
CORPORATE SOURCE: Department of Pharmaceutical Chemistry, School of Pharmacy, Aristotle University of Thessaloniki, Thessaloniki, 54124, Greece
SOURCE: Current Medicinal Chemistry (2009), 16(9), 1062-1081
CODEN: CMCHE7; ISSN: 0929-8673
PUBLISHER: Bentham Science Publishers Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 1-3 (Pharmacology)
ABSTRACT:
Chalcones are a group of plant-derived polyphenolic compds. belonging to the flavonoids family and possess a wide variety of cytoprotective and modulatory functions. The results showed that chalcones inhibit the proliferation of MCF-7 and MDA-MB-231 by inducing apoptosis and blocking cell cycle progression in the G2/M phase. Immunoblot assay showed that chalcones significantly decreased the expression of cyclin B1, cyclin A and Cdc2 protein, as well as increased the expression of p21 and p27 in a p53-independent manner,

contributing to cell cycle arrest. In this research we tried to review the anticancer effect of chalcones derivs., and to evaluate new QSARs which will help in the understanding of the role of chalcones and of their analogs on cancer. Simultaneously a comparative study will be presented. Our QSAR results reveal that in almost all cases, the clog P parameter plays an important part in the QSAR relationships (linear or bilinear model). In some cases the steric factors such as the CMR or the substituents MR (linear) are important. Electronic effects are comparatively unimportant. The study shows that log P as calculated from the Clog P program is suitable for this form of QSAR study.

SUPPL. TERM: chalcone cancer QSAR
INDEX TERM: Antitumor agents
Human
Mammary gland, neoplasm
QSAR (quantitative structure-activity relationship)
(chalcones role in cancer in terms of QSAR)
INDEX TERM: 94-41-7D, Chalcone, analogs 1896-62-4 10596-48-2
22563-48-0 51813-41-3 67962-06-5 67962-07-6
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1160619-67-9
ROLE: PAC (Pharmacological activity); THU (Therapeutic use);
BIOL (Biological study); USES (Uses)
(chalcones role in cancer in terms of QSAR)
OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 03 Oct 2011
OS.CITING.REFS: CAPLUS 2011:1190265; 2011:1077241; 2011:1001367; 2011:743876; 2011:567539; 2010:1305186; 2010:1232937; 2010:1023598;

2010:831193; 2010:893598; 2010:262014; 2010:26105; 2009:1390139
REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S):
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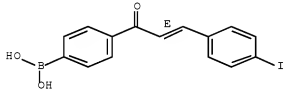
IT 562823-84-1 562823-90-9 562823-91-0
562823-92-1 562823-93-2
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(chalcones role in cancer in terms of QSAR)

RN 562823-84-1 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(4-iodophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



RN 562823-90-9 ZCAPLUS
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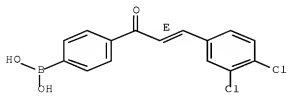
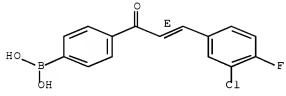
Double bond geometry as shown.



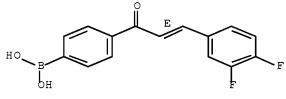
RN 562823-91-0 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3-chloro-4-fluorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



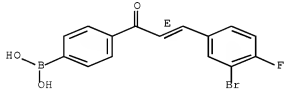
RN 562823-92-1 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3,4-difluorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



RN 562823-93-2 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3-bromo-4-fluorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



L51 ANSWER 6 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2007:1393130 ZCAPLUS Full-text
DOCUMENT NUMBER: 148:417386
ENTRY DATE: Entered STN: 07 Dec 2007
TITLE: Trans-4-lodo, 4'-boranyl-chalcone induces antitumor activity against malignant glioma cell lines in vitro and in vivo
AUTHOR(S): Sasayama, Takashi; Tanaka, Kazuhiro; Mizukawa, Katsu; Kawamura, Atsufumi; Kondoh, Takeshi; Hosoda, Kohkichi; Kohmura, Eiji
CORPORATE SOURCE: Department of Neurosurgery, Kobe University Graduate School of Medicine, 7-5-1, Kusunoki-cho, Chuo-ku, Kobe, 650-0017, Japan
SOURCE: Journal of Neuro-Oncology (2007), 85(2), 123-132
CODEN: JNODD2; ISSN: 0167-594X
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 1-6 (Pharmacology)
ABSTRACT:

Chalcones are considered the precursors of flavonoids and have been identified as interesting compds. with antitumor properties. Boronic-chalcone derivs. are more toxic to breast cancer cells compared to normal breast cells. Here, we studied the antitumor activities of trans-4-lodo,4'-boranyl-chalcone (TLBC), which is a boronic-chalcone derivative, in several glioma cell lines. TLBC showed a dose-dependent inhibition with inhibitory concentration 50% value in the μM range (5.5-25.5 μM) in various glioma cell lines. Flow cytometric and western blot assay demonstrated that TLBC induced apoptosis independent of changes to the tumor suppressor p53. This cytotoxic effect was the caspase-dependent manner. Also, TLBC lowered levels of anti-apoptotic Bcl-2 and/or Bcl-XL protein in several of the cell lines. To examine the antitumor effect of TLBC in vivo, we used a malignant glioma xenograft model. This result showed that in the mice treated with TLBC at 20 mg/kg, mean tumor volume was reduced by 43.9% ($P < 0.01$) in comparison with the control group. Immunohistochem. and western blot anal. showed that Bcl-2 protein levels were decreased and Bax protein levels were slightly increased in the tumors injected with 20 mg/kg TLBC compared with the control tumors. Therefore, we conclude that TLBC may be a potential chemotherapeutic agent for human glioma.

SUPPL. TERM: anticancer trans lodo boranyl chalcone glioblastoma apoptosis
INDEX TERM: Gene, animal
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(Bcl-2; trans-4-lodo,4'-boranyl-chalcone reduced mRNA level of Bcl-2 in human glioblastoma cell)
INDEX TERM: Bcl-x proteins
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(Bcl-xL; trans-4-lodo,4'-boranyl-chalcone reduced mRNA level of Bcl-XL in human glioblastoma cell)
INDEX TERM: Neuroglia, neoplasm
(glioblastoma; trans-4-lodo,4'-boranyl-chalcone induced cell cycle arrest, apoptosis and decreased antiapoptotic Bcl-2, XL protein expression in human glioblastoma cell

and in mouse with glioblastoma xenograft)
INDEX TERM: p53 (protein)
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(trans-4-Iodo,4'-boranyl-chalcone induced cell cycle arrest and induced apoptosis independent of p53 expression in human malignant glioblastoma cell)
INDEX TERM: Cytotoxic agents
Human
(trans-4-Iodo,4'-boranyl-chalcone induced cell cycle arrest, apoptosis and decreased antiapoptotic Bcl-2 as well as Bcl-XL protein expression in human glioblastoma cell)
INDEX TERM: Bcl-2 proteins
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(trans-4-Iodo,4'-boranyl-chalcone induced cell cycle arrest, apoptosis and decreased antiapoptotic Bcl-2 as well as Bcl-XL protein expression in human glioblastoma cell)
INDEX TERM: Apoptosis
(trans-4-Iodo,4'-boranyl-chalcone induced cell cycle arrest, apoptosis and decreased antiapoptotic Bcl-2, XL protein expression in human glioblastoma cell and in mouse with glioblastoma xenograft)
INDEX TERM: Cell death
(trans-4-Iodo,4'-boranyl-chalcone induced cell death in human glioblastoma cell)
INDEX TERM: Antitumor agents
Proliferation inhibition
(trans-4-Iodo,4'-boranyl-chalcone reduced tumor volume in mouse with human glioblastoma xenograft)
INDEX TERM: Bax proteins
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(trans-4-Iodo,4'-boranyl-chalcone slightly increased Bax protein expression in human glioblastoma cell and in mouse with glioblastoma xenograft)
INDEX TERM: 562823-84-1
ROLE: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(trans-4-Iodo,4'-boranyl-chalcone induced cell cycle arrest, apoptosis and decreased antiapoptotic Bcl-2 as well as Bcl-XL protein expression in human glioblastoma cell)
OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 22 Dec 2010
OS.CITING.REFS: CAPLUS 2010:1454435; 2010:1346932; 2010:1162550; 2009:541802; 2008:1164081; 2008:1074659
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD.
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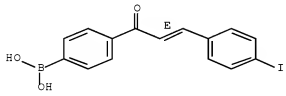
IT 562823-84-1
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(trans-4-Iodo,4'-boranyl-chalcone induced cell cycle arrest, apoptosis and decreased antiapoptotic Bcl-2 as well as Bcl-XL protein expression in human glioblastoma cell)
RN 562823-84-1 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(4-iodophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



L51 ANSWER 7 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2007:90998 ZCAPLUS Full-text
DOCUMENT NUMBER: 146:158818
ENTRY DATE: Entered STN: 26 Jan 2007

TITLE: Quaternary nitrogen heterocyclic compounds for detecting aqueous monosaccharides in physiological fluids
INVENTOR(S): Geddes, Chris D.; Badugu, Ramachandram; Lakowicz, Joseph R.
PATENT ASSIGNEE(S): University of Maryland Biotechnology Institute, USA
SOURCE: U.S. Pat. Appl. Publ., 72 pp., Cont.-in-part of Appl. No. PCT/US2004/022717.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
CLASSIFICATION: 9-16 (Biochemical Methods)
Section cross-reference(s): 14, 63
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070020182	A1	20070125	US 2005-318663	20051227
US 7718804	B2	20100518		
WO 2005000109	A2	20050106	WO 2004-US22717	20040628
WO 2005000109	A3	20050310		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 20100297016	A1	20101125	US 2010-781899	20100518

PRIORITY APPLN. INFO.:
US 2003-483124P P 20030627
US 2003-483202P P 20030627
WO 2004-US22717 A2 20040628
US 2005-318663 A3 20051227

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20070020182	INCL	424009600; 546013000; 544229000; 436095000
	IPCI	A61K0049-00 [I,A]; C07F0005-02 [I,A]; G01N0033-00 [I,A]; C07D0215-38 [I,A]
	IPCR	A61K0049-00 [I,A]; A61B [I,S]; A61K0031-44 [I,A]; A61K0031-47 [I,A]; C07D0213-02 [I,A]; C07D0215-00 [I,A]; C07F0005-02 [I,A]; G01N0033-00 [I,A]; C07D0215-38 [I,A]
	NCL	424/009.600; 436/095.000; 544/229.000; 546/013.000; 546/171.000
	ECLA	A61K0049-00P4F4C; C07F0005-02C
WO 2005000109	IPCI	A61B [ICM,7]
	IPCR	A61B [I,S]; A61K0031-44 [I,A]; A61K0031-47 [I,A]; A61K0049-00 [I,A]; C07D0213-02 [I,A]; C07D0215-00

		[I,A]; C07F0005-02 [I,A]
	ECLA	A61K0049-00P4F4C; C07F0005-02C
US 20100297016	IPCI	A61K0049-00 [I,A]; C07F0005-02 [I,A]; C07H0001-00 [I,A]; G01N0021-76 [I,A]; C12Q0001-02 [I,A]; G01N0033-00 [I,A]
	IPCR	A61K0049-00 [I,A]; A61B [I,S]; A61K0031-44 [I,A]; A61K0031-47 [I,A]; C07D0213-02 [I,A]; C07D0215-00 [I,A]; C07F0005-02 [I,A]; C07H0001-00 [I,A]; C12Q0001-02 [I,A]; G01N0021-76 [I,A]; G01N0033-00 [I,A]
	NCL	424/009.100; 435/029.000; 436/095.000; 436/172.000; 536/001.110; 544/229.000; 546/013.000
	ECLA	A61K0049-00P4F4C; C07F0005-02C

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ABSTRACT:
Quaternary nitrogen heterocyclic boronic acid-containing compds. are described, which are sensitive to glucose and fructose, as well as a variety of other physiol. important analytes, such as aqueous chloride and iodide, and a method of using the compds. Also disclosed is a contact lens doped with the quaternary nitrogen heterocyclic boronic acid-containing compound, and a method of using the doped contact lens to measure the concentration of analyte in tears under physiol. conditions.

SUPPL. TERM: quaternary nitrogen heterocyclic compd monosaccharide body fluid

INDEX TERM: Eye
(Ocular fluid; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Medical goods
(Ophthalmic, implantable; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Medical goods
Sensors
(Ophthalmic; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Fluorometry
(Ratiometric; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Eye
(aqueous humor; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Fluorescent substances
(boronic acid-containing; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Boronic acids
ROLE: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(fluorophores containing; quaternary nitrogen heterocyclic

compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Body fluid
(interstitial; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Heterocyclic compounds
ROLE: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(nitrogen, Quaternary; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Heterocyclic compounds
ROLE: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(nitrogen, boronic acid-containing, quaternary; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Blood analysis
Body fluid
Contact lenses
Containers
Fluorescence
Fluorometry
Optical anisotropy
Permeation
Sensors
Solutions
Tear
Test kits
UV and visible spectroscopy
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Monosaccharides
ROLE: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

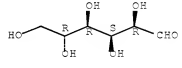
INDEX TERM: Polymers
ROLE: TEM (Technical or engineered material use); USES (Uses)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: 50-99-7, D-Glucose, analysis 57-48-7, D-Fructose, analysis 16887-00-6, Chloride, analysis 20461-54-5, Iodide, analysis
ROLE: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: 920491-56-1 920491-57-2 920491-58-3
ROLE: ARG (Analytical reagent use); ANST (Analytical study);

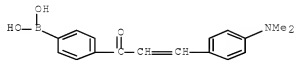
USES (Uses)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)
INDEX TERM: 406719-91-3 406719-92-4 406719-93-5
406719-94-6 406719-95-7
ROLE: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)
INDEX TERM: 63816-10-4P 784146-24-3P 784146-26-5P 784146-27-6P 784146-28-7P
ROLE: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)
INDEX TERM: 91-62-3, 6-Methylquinoline 100-39-0, Benzyl bromide 5263-87-6, 6-Methoxyquinoline 51323-43-4, m-Boronobenzyl bromide 68162-47-0, p-Boronobenzyl bromide 91983-14-1, o-Boronobenzyl bromide
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)
INDEX TERM: 784146-23-2P 784146-25-4P 819814-02-3P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 01 Apr 2011
OS.CITING.REFS: CAPLUS 2011:370337; 2010:51187
IT 50-99-7, D-Glucose, analysis
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)
RN 50-99-7 ZCAPLUS
CN D-Glucose (CA INDEX NAME)

Absolute stereochemistry.

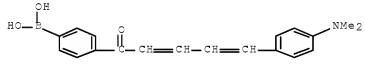


IT 406719-92-4 406719-94-6
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)
RN 406719-92-4 ZCAPLUS

CN Boronic acid, B-[4-[3-[4-(dimethylamino)phenyl]-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)



RN 406719-94-6 ZCAPLUS
CN Boronic acid, B-[4-[5-[4-(dimethylamino)phenyl]-1-oxo-2,4-pentadien-1-yl]phenyl]- (CA INDEX NAME)



L51 ANSWER 8 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2005:1114291 ZCAPLUS Full-text
DOCUMENT NUMBER: 145:58663
ENTRY DATE: Entered STN: 18 Oct 2005
TITLE: A glucose-sensing contact lens: a new approach to noninvasive continuous physiological glucose monitoring
AUTHOR(S): Badugu, Ramachandram; Lakowicz, Joseph R.; Geddes, Chris D.
CORPORATE SOURCE: Cent. fluorescence Spectroscopy, Dep. Biochem. & Mol. Biol., Univ. of Maryland School of Medicine, MD, 21201, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2004), 5317(Optical Fibers and Sensors for Medical Applications IV), 234-245
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 9-16 (Biochemical Methods)
ABSTRACT:
The authors have developed a new technol. for the non-invasive continuous monitoring of tear glucose using a daily use, disposable contact lens, embedded with sugar-sensing boronic acid containing fluorophores. The authors' findings show that the authors' approach may be suitable for the continuous monitoring of tear glucose levels in the range 50-500 μM, which track blood glucose levels that are typically ≈ 5-10-fold higher. The

authors initially tested the sensing concept with well-established, previously published, boronic acid probes and the results could conclude the used probes, with higher pKa values, are almost insensitive toward glucose within the contact lens, attributed to the low pH and polarity inside the lens. Subsequently, the authors have developed a range of probes based on the quinolinium backbone, having considerably lower pKa values, which enables them to be suitable to sense the physiol. glucose in the acidic pH contact lens. Herein the authors describe the results based on the authors' findings towards the development of glucose sensing contact lens and therefore an approach to non-invasive continuous monitoring of tear glucose using a contact lens.

SUPPL. TERM: glucose sensor contact lens tear boronic acid
INDEX TERM: Contact lenses
Fluorescent substances
Glucose sensors
Tear (ocular fluid)
pH
(noninvasive continuous physiol. glucose monitoring in contact lens)
INDEX TERM: 50-99-7, D-Glucose, analysis 57-48-7, D-Fructose, analysis
ROLE: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(noninvasive continuous physiol. glucose monitoring in contact lens)
INDEX TERM: 162254-07-1, ANDBA 406719-91-3, CSTBA 406719-92-4, Chalc 1 406719-93-5, DSTBA 406719-95-7 890653-41-5 890653-42-6
ROLE: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(noninvasive continuous physiol. glucose monitoring in contact lens)
INDEX TERM: 98-80-6, PhenylBoronic acid
ROLE: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(noninvasive continuous physiol. glucose monitoring in contact lens using boronic acid probes)
INDEX TERM: 22559-70-2, Quinolinium
ROLE: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(noninvasive continuous physiol. glucose monitoring in contact lens using quinolinium probes)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 16 Feb 2009
OS.CITING.REFS: CAPLUS 2005:150225
REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Badugu, R; Anal Chem. In press
(2) Badugu, R; Analyst, manuscript submitted
(3) Badugu, R; Noninvasive continuous monitoring of

physiological glucose using a monosaccharide-sensing contact lens-2, manuscript under preparation
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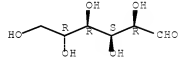
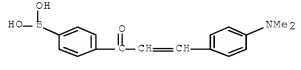
IT 50-99-7, D-Glucose, analysis
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(noninvasive continuous physiol. glucose monitoring in contact lens)
RN 50-99-7 ZCAPLUS
CN D-Glucose (CA INDEX NAME)

Absolute stereochemistry.



IT 406719-92-4, Chalc 1
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(noninvasive continuous physiol. glucose monitoring in contact lens)
RN 406719-92-4 ZCAPLUS
CN Boronic acid, B-[4-[3-[4-(dimethylamino)phenyl]-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)



L51 ANSWER 9 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2005:952799 ZCAPLUS Full-text
DOCUMENT NUMBER: 143:398794
ENTRY DATE: Entered STN: 01 Sep 2005
TITLE: Monitoring the Effects of Antagonists on Protein-Protein Interactions with NMR Spectroscopy
AUTHOR(S): D'Silva, Loyola; Ozdowy, Przemyslaw; Krajewski, Marcin; Rothweiler, Ulli; Singh, Mahavir; Holak, Tad A.
CORPORATE SOURCE: Max Planck Institute for Biochemistry, Martinsried, D-82152, Germany
SOURCE: Journal of the American Chemical Society (2005), 127(38), 13220-13226
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 1-1 (Pharmacology)
Section cross-reference(s): 9

ABSTRACT:
We describe an NMR method that directly monitors the influence of ligands on protein-protein interactions. For a two-protein interaction complex, the size of one component should be small enough (less than .apprx.15 kDa) to provide a good quality 15N (13C) HSQC spectrum after 15N(13C) labeling. The size of the second unlabeled component should be large enough so that the mol. weight of the preformed complex is larger than .apprx. 40 kDa. When the smaller protein binds to a larger one, broadening of NMR resonances results in the disappearance of most of its cross-peaks in the HSQC spectrum. Addition of an antagonist that can dissociate the complex would restore the HSQC spectrum of the smaller component. The method directly shows whether an antagonist releases proteins in their wild-type folded states or whether it induces their denaturation, partial unfolding, or precipitation We illustrate the method by studying
lead compds. that have recently been reported to block the MDM2-p53 interaction. Activation of p53 in tumor cells by inhibiting its interaction with MDM2 offers new strategy for cancer therapy.

SUPPL. TERM: protein interaction antagonist monitoring NMR spectroscopy; MDM2 p53 interaction inhibitor cancer therapy protein unfolding
INDEX TERM: p53 (protein)
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(MDM2 complexes; monitoring effects of antagonists on protein-protein interactions with NMR spectroscopy)
INDEX TERM: Mdm2 protein
p53 (protein)
ROLE: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(conformation; monitoring effects of antagonists on protein-protein interactions with NMR spectroscopy)
INDEX TERM: Conformation
(folded; monitoring effects of antagonists on

protein-protein interactions with NMR spectroscopy)
INDEX TERM: Antitumor agents
Drug screening
NMR spectroscopy
Neoplasm
Protein unfolding
Protein-protein interaction
(monitoring effects of antagonists on protein-protein interactions with NMR spectroscopy)
INDEX TERM: Mdm2 protein
ROLE: BSU (Biological study, unclassified); BIOL (Biological study)
(p53 complexes; monitoring effects of antagonists on protein-protein interactions with NMR spectroscopy)
INDEX TERM: Conformation
(protein; monitoring effects of antagonists on protein-protein interactions with NMR spectroscopy)
INDEX TERM: 59541-35-4, NSC 279287 548472-68-0, Nutlin-3 562823-90-9
ROLE: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monitoring effects of antagonists on protein-protein interactions with NMR spectroscopy)
OS.CITING REF COUNT: 25 THERE ARE 25 CAPLUS RECORDS THAT CITE THIS RECORD (26 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 22 Apr 2011
OS.CITING.REFS: CAPLUS 2011:472182; 2010:1396327; 2010:933915; 2010:882825; 2010:694488; 2009:1171980; 2009:1193603; 2009:915670; 2009:494539; 2009:554469; 2009:412604; 2008:939303; 2008:891340; 2008:723802; 2008:544780; 2008:508001; 2007:903019; 2007:707103; 2007:454213; 2006:1143616; 2006:920972; 2006:723279; 2006:536751; 2006:157006; 2005:1172226
REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Ayed, A; Nat Struct Biol 2001, V8, P756 ZCAPLUS
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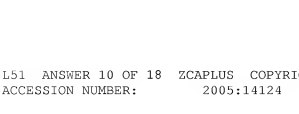
IT 562823-90-9
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monitoring effects of antagonists on protein-protein interactions with NMR spectroscopy)
RN 562823-90-9 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3,4-dichlorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



L51 ANSWER 10 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2005:14124 ZCAPLUS Full-text

DOCUMENT NUMBER: 142:89411
ENTRY DATE: Entered STN: 07 Jan 2005
TITLE: Quaternary nitrogen heterocyclic compounds for detecting aqueous monosaccharides in physiological fluids
INVENTOR(S): Geddes, Chris D.; Badugu, Ramachandran; Lakowitz, Joseph R.
PATENT ASSIGNEE(S): University of Maryland Biotechnology Institute, USA
SOURCE: PCT Int. Appl., 120 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
CLASSIFICATION: 9-16 (Biochemical Methods)
Section cross-reference(s): 14, 63
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005000109	A2	20050106	WO 2004-US22717	20040628
WO 2005000109	A3	20050310		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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EP 1644330	B1	20110817		
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US 20070020182	A1	20070125	US 2005-318663	20051227
US 7718804	B2	20100518		
US 20100297016	A1	20101125	US 2010-781899	20100518
PRIORITY APPLN. INFO.:			US 2003-483124P	P 20030627
			US 2003-483202P	P 20030627
			WO 2004-US22717	W 20040628
			US 2005-318663	A3 20051227

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2005000109	IPCI	A61B [ICM,7]
	IPCR	A61B [I,S]; A61K0031-44 [I,A]; A61K0031-47 [I,A]; A61K0049-00 [I,A]; C07D0213-02 [I,A]; C07D0215-00 [I,A]; C07F0005-02 [I,A]
	ECLA	A61K0049-00P4F4C; C07F0005-02C
EP 1644330	IPCI	C07D0213-02 [I,A]; C07D0215-00 [I,A]; A61K0031-44 [I,A]; A61K0031-47 [I,A]; C07F0005-02 [I,A]

	IPCR	C07D0213-02 [I,A]; A61B [I,S]; A61K0031-44 [I,A]; A61K0031-47 [I,A]; A61K0049-00 [I,A]; C07D0215-00 [I,A]; C07F0005-02 [I,A]
	ECLA	A61K0049-00P4F4C; C07F0005-02C
AT 520661	IPCI	C07D0213-02 [I,A]; A61K0031-44 [I,A]; A61K0031-47 [I,A]; C07D0215-00 [I,A]; C07F0005-02 [I,A]
	IPCR	A61B [I,S]; A61K0049-00 [I,A]
	ECLA	A61K0049-00P4F4C; C07F0005-02C
US 20070020182	IPCI	A61K0049-00 [I,A]; C07F0005-02 [I,A]; G01N0033-00 [I,A]; C07D0215-38 [I,A]
	IPCR	A61K0049-00 [I,A]; A61B [I,S]; A61K0031-44 [I,A]; A61K0031-47 [I,A]; C07D0213-02 [I,A]; C07D0215-00 [I,A]; C07F0005-02 [I,A]; G01N0033-00 [I,A]; C07D0215-38 [I,A]
	NCL	424/009.600; 436/095.000; 544/229.000; 546/013.000; 546/171.000
	ECLA	A61K0049-00P4F4C; C07F0005-02C
US 20100297016	IPCI	A61K0049-00 [I,A]; C07F0005-02 [I,A]; C07H0001-00 [I,A]; G01N0021-76 [I,A]; C12Q0001-02 [I,A]; G01N0033-00 [I,A]
	IPCR	A61K0049-00 [I,A]; A61B [I,S]; A61K0031-44 [I,A]; A61K0031-47 [I,A]; C07D0213-02 [I,A]; C07D0215-00 [I,A]; C07F0005-02 [I,A]; C07H0001-00 [I,A]; C12Q0001-02 [I,A]; G01N0021-76 [I,A]; G01N0033-00 [I,A]
	NCL	424/009.100; 435/029.000; 436/095.000; 436/172.000; 536/001.110; 544/229.000; 546/013.000
	ECLA	A61K0049-00P4F4C; C07F0005-02C

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 142:89411

ABSTRACT:

Disclosed are quaternary nitrogen heterocyclic boronic acid-containing compds. which are sensitive to glucose and fructose, as well as a variety of other physiol. important analytes, such as aqueous chloride and iodide, and a method of using the compds. Also disclosed is a contact lens doped with the quaternary nitrogen heterocyclic boronic acid-containing compound, and a method of using the doped contact lens to measure the concentration of analyte in tears under physiol. conditions.

SUPPL. TERM: quaternary nitrogen heterocyclic compd detecting aq monosaccharide physiol fluid

INDEX TERM: Eye
(Ocular fluid; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Medical goods
(Ophthalmic, implantable; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Medical goods
Sensors
(Ophthalmic; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Fluorometry

(Ratiometric; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Eye
(aqueous humor; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Fluorescent substances
(boronic acid-containing; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Acids, preparation
Group IIIA element compounds
ROLE: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(boronic acids, fluorophores containing; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Bond
(covalent; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Body fluid
(interstitial; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Heterocyclic compounds
ROLE: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(nitrogen, Quaternary; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Heterocyclic compounds
ROLE: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(nitrogen, boronic acid-containing, quaternary; quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Adhesion, physical
Blood analysis
Body fluid
Concentration (condition)
Contact lenses
Containers
Fluorescence
Fluorometry
Optical anisotropy
Permeation
Reaction
Sensors
Solutions

Surface
Tear (ocular fluid)
Test kits
UV and visible spectroscopy
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Monosaccharides
ROLE: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: Polymers, uses
ROLE: DEV (Device component use); USES (Uses)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: 50-99-7, D-Glucose, analysis 57-48-7, D-Fructose, analysis 16887-00-6, Chloride, analysis 20461-54-5, Iodide, analysis
ROLE: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: 406719-91-3 406719-92-4 406719-93-5 406719-94-6 406719-95-7
ROLE: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: 63816-10-4P 784146-24-3P 784146-26-5P 784146-27-6P 784146-28-7P
ROLE: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

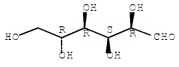
INDEX TERM: 91-62-3, 6-Methylquinoline 100-39-0, Benzyl bromide 5263-87-6, 6-Methoxyquinoline 51323-43-4, m-Boronobenzyl bromide 68162-47-0, p-Boronobenzyl bromide 91983-14-1, o-Boronobenzyl bromide
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

INDEX TERM: 784146-23-2P 784146-25-4P 819814-02-3P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)

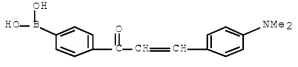
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 26 Nov 2010
OS.CITING.REFS: CAPLUS 2010:1428388; 2006:1289696
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Anon; WO 0186264 A1 ZCAPLUS
IT 50-99-7, D-Glucose, analysis
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical

study); BIOL (Biological study)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)
RN 50-99-7 ZCAPLUS
CN D-Glucose (CA INDEX NAME)

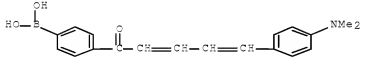
Absolute stereochemistry.



IT 406719-92-4 406719-94-6
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(quaternary nitrogen heterocyclic compds. for detecting aqueous monosaccharides in physiol. fluids)
RN 406719-92-4 ZCAPLUS
CN Boronic acid, B-[4-[3-[4-(dimethylamino)phenyl]-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)



RN 406719-94-6 ZCAPLUS
CN Boronic acid, B-[4-[5-[4-(dimethylamino)phenyl]-1-oxo-2,4-pentadien-1-yl]phenyl]- (CA INDEX NAME)



L51 ANSWER 11 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2004:621102 ZCAPLUS Full-text
DOCUMENT NUMBER: 142:234524
ENTRY DATE: Entered STN: 04 Aug 2004
TITLE: Cyanide-sensitive fluorescent probes

AUTHOR(S): Badugu, Ramachandram; Lakowicz, Joseph R.; Geddes, Chris D.
CORPORATE SOURCE: Center for Fluorescence Spectroscopy, Department of Biochemistry and Molecular Biology, Medical Biotechnology Center, University of Maryland School of Medicine, Baltimore, MD, 21201, USA
SOURCE: Dyes and Pigments (2005), 64(1), 49-55
CODEN: DYPIDX; ISSN: 0143-7208
PUBLISHER: Elsevier Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 4-1 (Toxicology)
ABSTRACT:
We characterize the response of several boronic acid containing fluorophores, which are widely used for sugar determination, towards aqueous cyanide. In two recent reports
we have shown that boronic acid containing fluorophores can be used to sense aqueous
cyanide through physiol. safeguard levels. In this report we show that our new sensing mechanism is not just specific to our recently reported probes, but is indeed generic to the boronic acid moiety itself. Subsequently a wide range of cyanide-sensitive probes can now be realized, offering several modalities for fluorescence based cyanide sensing such as: intensity, lifetime, ratiometric, polarization and modulation fluorescence sensing.

SUPPL. TERM: cyanide sensing fluorescent probe
INDEX TERM: Fluorescent indicators
(boronic acid-containing; cyanide sensing by boronic acid-containing fluorescent probes)
INDEX TERM: Fluorometry
(cyanide sensing by boronic acid-containing fluorescent probes)
INDEX TERM: 57-12-5, Cyanide, analysis
ROLE: ANT (Analyte); ANST (Analytical study)
(cyanide sensing by boronic acid-containing fluorescent probes)
INDEX TERM: 162254-07-1, ANDBA 387869-15-0, PANSBA 406719-91-3, CSTBA 406719-92-4, Chalc 1 406719-93-5, DSTBA
ROLE: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(cyanide sensing by boronic acid-containing fluorescent probes)
OS.CITING REF COUNT: 56 THERE ARE 56 CAPLUS RECORDS THAT CITE THIS RECORD (56 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 04 Oct 2011
OS.CITING.REFS: CAPLUS 2011:1223218; 2011:797568; 2011:805145; 2011:800011; 2011:498892; 2011:476192; 2011:223030; 2011:330297; 2011:317839; 2010:1592856; 2011:82874; 2010:1467081; 2010:1424734; 2010:1125778; 2010:1083809; 2010:938709; 2010:797026; 2010:372843; 2010:430797; 2010:67917; 2009:1581793; 2009:1508405; 2009:1256622; 2009:1073942; 2009:788190; 2009:850677; 2009:362350; 2009:467324; 2009:111292; 2009:50982; 2008:1203090; 2008:1126750; 2008:973436; 2008:873394; 2008:806353;

2008:507194; 2008:502873; 2008:210493; 2008:97338; 2007:1011172; 2007:970817; 2007:915860; 2007:544629; 2007:257600; 2007:4114; 2006:1191619; 2006:1166915; 2006:1133685; 2006:937699; 2006:718797

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S):
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(6) Badugu, R; Submitted for publication
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(9) Dicesare, N; Anal Biochem 2002, V301(1), P111 ZCAPLUS
(10) Dicesare, N; Chem Commun 2001, P2022 ZCAPLUS
(11) Dicesare, N; J Biomed Optics 2002, V7(4), P538 ZCAPLUS
(12) Dicesare, N; J Fluoresc 2002, V12(2), P147 ZCAPLUS
(13) Dicesare, N; J Photochem Photobiol A Chem 2001, V143, P39 ZCAPLUS
(14) Dicesare, N; J Phys Chem A 2001, V105, P6834 ZCAPLUS
(15) Dicesare, N; Org Lett 2001, V3(24), P3891 ZCAPLUS
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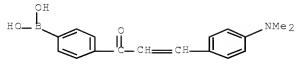
IT 406719-92-4, Chalc 1
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(cyanide sensing by boronic acid-containing fluorescent probes)

RN 406719-92-4 ZCAPLUS

CN Boronic acid, B-[4-[3-[4-(dimethylamino)phenyl]-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)



L51 ANSWER 12 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2003:1011575 ZCAPLUS Full-text
DOCUMENT NUMBER: 140:195805
ENTRY DATE: Entered STN: 30 Dec 2003
TITLE: Noninvasive continuous monitoring of physiological glucose using a monosaccharide-sensing contact lens
AUTHOR(S): Badugu, Ramachandram; Lakowicz, Joseph R.; Geddes, Chris D.
CORPORATE SOURCE: Center for Fluorescence Spectroscopy, Department of Biochemistry and Molecular Biology, Medical Biotechnology Center, University of Maryland School of Medicine, Baltimore, MD, 21201, USA
SOURCE: Analytical Chemistry (2004), 76(3), 610-618
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 9-16 (Biochemical Methods)
ABSTRACT:
We have tested the feasibility of tear glucose sensing using a daily, disposable contact lens embedded with boronic acid-containing fluorophores as a potential alternative to current invasive glucose-monitoring techniques. Our findings show that our approach may, indeed, be suitable for the continuous monitoring of tear glucose levels in the range 50-500 μM, which track blood glucose levels that are .apprx.5-10-fold higher. We compare the response of the boronic acid probes in the contact lens to solution-based measurements and can conclude that both the pH and polarity within the contact lens need to be considered with respect to choosing/designing and optimizing glucose-sensing probes for contact lenses.

SUPPL. TERM: glucose monosaccharide sensing contact eye lens
INDEX TERM: Blood analysis
Contact lenses
Fluorometry
Hyperglycemia
Tear (ocular fluid)
(noninvasive continuous monitoring of physiol. glucose using monosaccharide-sensing contact lens)
INDEX TERM: 50-99-7, D-Glucose, analysis 57-48-7, Fructose, analysis
ROLE: ANT (Analyte); ANST (Analytical study)
(noninvasive continuous monitoring of physiol. glucose using monosaccharide-sensing contact lens)

INDEX TERM: 163927-91-1 357638-58-5 661459-47-8
661459-48-9 661459-49-0
ROLE: ARU (Analytical role, unclassified); ANST (Analytical study)
(noninvasive continuous monitoring of physiol. glucose using monosaccharide-sensing contact lens)
OS.CITING REF COUNT: 41 THERE ARE 41 CAPLUS RECORDS THAT CITE THIS RECORD (41 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 02 Sep 2011
OS.CITING.REFS: CAPLUS 2011:1031793; 2008:169850; 2011:320394; 2010:126934; 2009:1021213; 2009:799396; 2009:227665; 2008:793135; 2008:180791; 2007:1476414; 2007:581067; 2007:544629; 2007:266837; 2007:266452; 2007:12104; 2007:11745; 2006:1198206; 2006:1113050; 2006:1092856; 2006:1027247; 2006:552493; 2006:456037; 2006:320952; 2006:121748; 2005:1037120; 2005:436099; 2005:150225; 2005:141376; 2005:113259; 2004:1125099; 2004:1120628; 2004:1043350; 2004:1038074; 2004:875181; 2004:830500; 2004:719141; 2004:697522; 2004:621102; 2004:499011; 2004:470034; 2004:407871
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S):

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(10) Dicesare, N; Chem Commun 2001, P2022 ZCAPLUS
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(13) Dicesare, N; J Phys Chem A 2001, V105, P6834 ZCAPLUS
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ZCAPLUS
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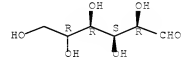
IT 50-99-7, D-Glucose, analysis
RL: ANT (Analyte); ANST (Analytical study)
(noninvasive continuous monitoring of physiol. glucose using monosaccharide-sensing contact lens
)
RN 50-99-7 ZCAPLUS
CN D-Glucose (CA INDEX NAME)

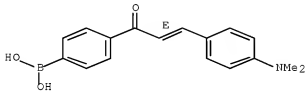
Absolute stereochemistry.



IT 661459-48-9 661459-49-0
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(noninvasive continuous monitoring of physiol. glucose using monosaccharide-sensing contact lens
)

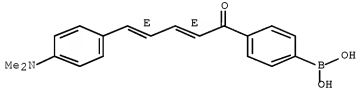
RN 661459-48-9 ZCAPLUS
CN Boronic acid, [4-[(2E)-3-[4-(dimethylamino)phenyl]-1-oxo-2-propenyl]phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 661459-49-0 ZCAPLUS
CN Boronic acid, [4-[(2E,4E)-5-[4-(dimethylamino)phenyl]-1-oxo-2,4-pentadienyl]phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L51 ANSWER 13 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2003:1006923 ZCAPLUS Full-text
DOCUMENT NUMBER: 140:59511
ENTRY DATE: Entered STN: 26 Dec 2003
TITLE: Preparation of boronic chalcone derivatives as anticancer agents
INVENTOR(S): Khan, Saeed R.
PATENT ASSIGNEE(S): Johns Hopkins University, USA
SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
CLASSIFICATION: 27-10 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1, 25, 29
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003106384	A2	20031224	WO 2003-US18962	20030612

WO 2003106384 A3 20040617
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003243594	A1	20031231	AU 2003-243594		20030612
US 20050176988	A1	20050811	US 2005-517781		20050420
US 7514579	B2	20090407			
US 20090227542	A1	20090910	US 2009-403288		20090312
PRIORITY APPLN. INFO.:			US 2002-388255P	P	20020613
			US 2003-444429P	P	20030203
			WO 2003-US18962	W	20030612
			US 2005-517781	A3	20050420

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2003106384	IPCI	C07C [ICM,7]
	IPCR	C07F0005-02 [I,A]
	ECLA	C07F0005-02C
AU 2003243594	IPCI	C07F0005-02 [ICM,7]
	IPCR	C07F0005-02 [I,A]
	ECLA	C07F0005-02C
US 20050176988	IPCI	C07F0005-02 [I,A]
	IPCR	C07F0005-02 [I,A]
	NCL	562/007.000
	ECLA	C07F0005-02C
US 20090227542	IPCI	C07F0005-02 [I,A]; A61K0031-69 [I,A]; A61P0035-00 [I,A]; A61P0035-04 [I,A]
	IPCR	C07F0005-02 [I,A]; A61K0031-69 [I,A]; A61P0035-00 [I,A]; A61P0035-04 [I,A]
	NCL	514/064.000; 548/405.000; 562/007.000
	ECLA	C07F0005-02C

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): MARPAT 140:59511

GRAPHIC IMAGE:

I

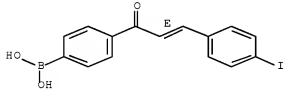
ABSTRACT:
The present invention relates to novel boronic chalcone derivs. I [Ar =

(un)substituted heteroaryl, etc.; W = H, etc.; X = Zn, etc.; n = 0 or any integer; Z = (un)substituted alkylene, etc.] which are useful as antitumor/anticancer agents. The activity of compds. of this invention against the growth of human breast cancer cell lines was demonstrated.

SUPPL. TERM: boronic chalcone deriv anticancer agent prepn
INDEX TERM: Bone, neoplasm
(Ewing's sarcoma; preparation of boronic chalcone derivs. as anticancer agents)
INDEX TERM: Sarcoma
(Ewing's; preparation of boronic chalcone derivs. as anticancer agents)
INDEX TERM: Sarcoma
(Kaposi's; preparation of boronic chalcone derivs. as anticancer agents)
INDEX TERM: Skin, neoplasm
(basal cell carcinoma; preparation of boronic chalcone derivs.
as anticancer agents)
INDEX TERM: Carcinoma
(basal cell; preparation of boronic chalcone derivs. as anticancer agents)
INDEX TERM: Intestine, neoplasm
(colon; preparation of boronic chalcone derivs. as anticancer agents)
INDEX TERM: Intestine, neoplasm
(colorectal; preparation of boronic chalcone derivs. as anticancer agents)
INDEX TERM: Neoplasm
Neoplasm
(head and neck; preparation of boronic chalcone derivs. as anticancer agents)
INDEX TERM: Acute myeloid leukemia
Antitumor agents
Bladder, neoplasm
Brain, neoplasm
Eye, neoplasm
Head and Neck, neoplasm
Head and Neck, neoplasm
Human
Kidney, neoplasm
Lung, neoplasm
Lymphocytic leukemia
Lymphoma
Mammary gland, neoplasm
Melanoma
Mouth, neoplasm
Neoplasm
Ovary, neoplasm
Pharynx, neoplasm
Prostate gland, neoplasm
Stomach, neoplasm
Testis, neoplasm
Uterus, neoplasm

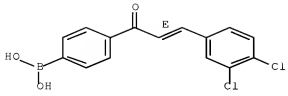
(preparation of boronic chalcone derivs. as anticancer agents)
INDEX TERM: Carcinoma
(squamous cell; preparation of boronic chalcone derivs. as anticancer agents)
INDEX TERM: 562823-84-1P 562823-85-2P 562823-86-3P
562823-87-4P 562823-88-5P 562823-90-9P
562823-91-0P 562823-92-1P
562823-93-2P 562823-94-3P 562823-95-4P
637347-03-6P
ROLE: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of boronic chalcone derivs. as anticancer agents)
OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 02 Jun 2010
OS.CITING.REFS: CAPLUS 2010:642561; 2010:105774; 2006:977103; 2005:612309; 2004:1127078; 2004:1089421
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Anon; US 5814622 A ZCAPLUS
(2) Anon; US 6083903 A ZCAPLUS
(3) Anon; US 6297217 B1 ZCAPLUS
IT 562823-84-1P 562823-90-9P 562823-91-0P
562823-92-1P 562823-93-2P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of boronic chalcone derivs. as anticancer agents)
RN 562823-84-1 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(4-iodophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



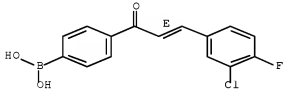
RN 562823-90-9 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3,4-dichlorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



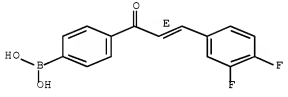
RN 562823-91-0 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3-chloro-4-fluorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



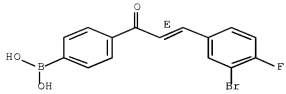
RN 562823-92-1 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3,4-difluorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



RN 562823-93-2 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3-bromo-4-fluorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



L51 ANSWER 14 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2003:410905 ZCAPLUS Full-text
DOCUMENT NUMBER: 139:117464
ENTRY DATE: Entered STN: 30 May 2003
TITLE: Design, Synthesis, and Evaluation of Novel Boronic-Chalcone Derivatives as Antitumor Agents
AUTHOR(S): Kumar, Srinivas K.; Hager, Erin; Pettit, Catherine; Gurulingappa, Hallur; Davidson, Nancy E.; Khan, Saeed R.
CORPORATE SOURCE: Division of Experimental Therapeutics, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD, 21231, USA
SOURCE: Journal of Medicinal Chemistry (2003), 46(14), 2813-2815
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 29-4 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 1
OTHER SOURCE(S): CASREACT 139:117464
ABSTRACT:
A series of boronic-chalcone derivs., e.g. 4-IC6H4CH:CHCOC6H4B(OH)2-4, were synthesized and tested for antitumor activity against human breast cancer cell lines. The results show the boronic-chalcones are more toxic to breast cancer cells compared to normal breast cells than other known chalcones.

SUPPL. TERM: boronic chalcone deriv prepn antitumor activity human breast cancer
INDEX TERM: Human
(design, synthesis, and evaluation of novel boronic-chalcone derivs. as antitumor agents)
INDEX TERM: Antitumor agents
(mammary gland; design, synthesis, and evaluation of novel boronic-chalcone derivs. as antitumor agents)
INDEX TERM: 562823-85-2P
ROLE: BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(design, synthesis, and evaluation of novel boronic-chalcone derivs. as antitumor agents)
INDEX TERM: 22563-48-0P 562823-84-1P 562823-86-3P
562823-87-4P 562823-88-5P 562823-89-6P

562823-90-9P 562823-91-0P
562823-92-1P 562823-93-2P 562823-94-3P
562823-95-4P
ROLE: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(design, synthesis, and evaluation of novel boronic-chalcone derivs. as antitumor agents)
INDEX TERM: 99-93-4, 4-Acetylphenol 6287-38-3, 3,4-Dichlorobenzaldehyde 15164-44-0, 4-Iodobenzaldehyde 34036-07-2, 3,4-Difluorobenzaldehyde 34328-61-5 77771-02-9 149104-90-5, 4-Acetylphenylboronic acid 166330-03-6
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(design, synthesis, and evaluation of novel boronic-chalcone derivs. as antitumor agents)
OS.CITING REF COUNT: 122 THERE ARE 122 CAPLUS RECORDS THAT CITE THIS RECORD (122 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 17 Oct 2011
OS.CITING.REFS: CAPLUS 2011:881455; 2011:1190265; 2011:991168; 2011:596846; 2011:458294; 2011:492175; 2011:466790; 2011:443610; 2011:439588; 2011:374823; 2011:272137; 2011:65469; 2011:11629; 2010:1451501; 2010:1454435; 2010:1346932; 2010:1440858; 2010:1394766; 2010:1372747; 2010:1085552; 2010:1177732; 2010:1220217; 2010:1198772; 2010:932392; 2010:1106922; 2010:868682; 2010:994394; 2010:935788; 2010:859087; 2010:642561; 2010:632866; 2010:627821; 2010:495431; 2010:246478; 2010:82926; 2009:1390139; 2009:1339654; 2009:1302937; 2009:1283172; 2009:1117164; 2009:655687; 2009:430280; 2009:503779; 2009:489090; 2009:480379; 2009:471012; 2009:166506; 2009:396625; 2009:241555; 2008:1334426
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S):

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(25) Park, E; Planta Med 1998, V64, P464 ZCAPLUS
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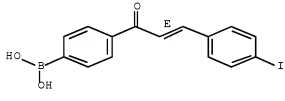
IT 562823-84-1P 562823-90-9P 562823-91-0P
562823-92-1P 562823-93-2P
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(design, synthesis, and evaluation of novel boronic-chalcone derivs. as antitumor agents)

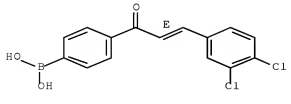
RN 562823-84-1 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(4-iodophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



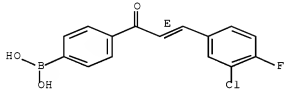
RN 562823-90-9 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3,4-dichlorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



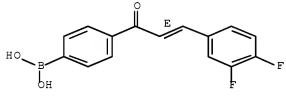
RN 562823-91-0 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3-chloro-4-fluorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



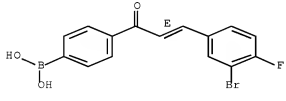
RN 562823-92-1 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3,4-difluorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



RN 562823-93-2 ZCAPLUS
CN Boronic acid, B-[4-[(2E)-3-(3-bromo-4-fluorophenyl)-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)

Double bond geometry as shown.



L51 ANSWER 15 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2002:211081 ZCAPLUS Full-text
DOCUMENT NUMBER: 137:134122
ENTRY DATE: Entered STN: 20 Mar 2002
TITLE: Chalcone-analogue fluorescent probes for saccharides signaling using the boronic acid group
AUTHOR(S): DiCesare, Nicolas; Lakowicz, Joseph R.
CORPORATE SOURCE: Center for Fluorescence Spectroscopy, School of Medicine, University of Maryland, Baltimore, MD, 21201, USA
SOURCE: Tetrahedron Letters (2002), 43(14), 2615-2618
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 80-2 (Organic Analytical Chemistry)
Section cross-reference(s): 33, 73

ABSTRACT:
Two new fluorescent probes based on 1,3-diphenylprop-2-en-1-one and on 1,5-diphenylpenta-2,4-dien-1-one structures are presented. Both probes possess one electron-donating dimethylamino group and one boronic acid group (electron-withdrawing group). The change between the neutral and the anionic form of the boronic acid group induced at high pH and/or in presence of sugar, induces optical changes for both probes. Spectroscopic data, pKa and dissociation consts. for different monosaccharides are presented and discussed in terms of sugar detection.

SUPPL. TERM: chalcone boronic acid fluorescent probe saccharide detection
INDEX TERM: Monosaccharides
ROLE: ANT (Analyte); ANST (Analytical study)
(analytes; chalcone-analog fluorescent probes for saccharides signaling using the boronic acid group)
INDEX TERM: Optical sensors
(fluorescent; chalcone-analog fluorescent probes for saccharides signaling using the boronic acid group)
INDEX TERM: Dissociation constant
Fluorescence
Molar absorptivity
(of 1,3-diphenylprop-2-en-1-one and on 1,5-diphenylpenta-2,4-dien-1-one containing dimethylaniline and boronic acid group)
INDEX TERM: 50-99-7, Glucose, analysis 57-48-7, Fructose, analysis 59-23-4, Galactose, analysis
ROLE: ANT (Analyte); ANST (Analytical study)
(analytes; chalcone-analog fluorescent probes for saccharides signaling using the boronic acid group)
INDEX TERM: 406719-92-4 406719-94-6
ROLE: ARU (Analytical role, unclassified); DEV (Device component use); PRP (Properties); ANST (Analytical study); USES (Uses)
(chalcone-analog fluorescent probes for saccharides signaling using the boronic acid

group)
INDEX TERM: 100-10-7 6203-18-5 149104-90-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of 1,3-diphenylprop-2-en-1-one and on 1,5-diphenylpenta-2,4-dien-1-one containing dimethylaniline and boronic acid group)
OS.CITING REF COUNT: 53 THERE ARE 53 CAPLUS RECORDS THAT CITE THIS RECORD (53 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 05 Aug 2011
OS.CITING.REFS: CAPLUS 2011:928818; 2008:169850; 2011:330297; 2010:571477; 2010:430797; 2010:82926; 2009:1313614; 2009:503779; 2009:480379; 2008:499923; 2007:1388279; 2007:719542; 2007:686863; 2007:521464; 2007:266837; 2007:266452; 2007:239704; 2007:2736; 2006:529462; 2006:496977; 2006:456037; 2006:166391; 2005:1148227; 2005:1114291; 2005:1051890; 2005:649464; 2005:612309; 2005:601944; 2005:590446; 2005:533620; 2005:483103; 2005:320752; 2005:150225; 2005:141376; 2005:113259; 2004:1125099; 2004:1043350; 2004:1010934; 2004:938446; 2004:806116; 2004:697536; 2004:697529; 2004:697522; 2004:621102; 2004:407871; 2004:290806; 2004:115138; 2003:1011575; 2003:814314; 2003:410905
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Adhikiri, D; Tetrahedron Lett 1999, V40, P7893 ZCAPLUS
(2) DiCesare, N; Chem Commun 2001, V19, P2022
(3) DiCesare, N; J Photochem Photobiol A 2001, V143, P39 ZCAPLUS
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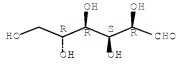
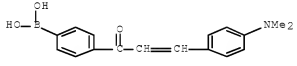
IT 50-99-7, Glucose, analysis
RL: ANT (Analyte); ANST (Analytical study)
(analytes; chalcone-analog fluorescent probes for saccharides signaling using the boronic acid group)
RN 50-99-7 ZCAPLUS
CN D-Glucose (CA INDEX NAME)

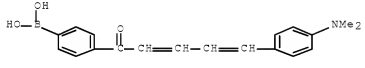
Absolute stereochemistry.



IT 406719-92-4 406719-94-6
RL: ARU (Analytical role, unclassified); DEV (Device component use); PRP (Properties); ANST (Analytical study); USES (Uses)
(chalcone-analog fluorescent probes for saccharides signaling using the boronic acid group)
RN 406719-92-4 ZCAPLUS
CN Boronic acid, B-[4-[3-[4-(dimethylamino)phenyl]-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)



RN 406719-94-6 ZCAPLUS
CN Boronic acid, B-[4-[5-[4-(dimethylamino)phenyl]-1-oxo-2,4-pentadien-1-yl]phenyl]- (CA INDEX NAME)



L51 ANSWER 16 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2002:73583 ZCAPLUS Full-text
DOCUMENT NUMBER: 136:275539
ENTRY DATE: Entered STN: 28 Jan 2002
TITLE: New sensitive and selective fluorescent probes for fluoride using boronic acids
AUTHOR(S): DiCesare, Nicolas; Lakowicz, Joseph R.
CORPORATE SOURCE: Center for Fluorescence Spectroscopy, University of Maryland, School of Medicine, Baltimore, MD, 21201, USA
SOURCE: Analytical Biochemistry (2002), 301(1), 111-116
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Academic Press

DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 9-5 (Biochemical Methods)
Section cross-reference(s): 14, 61, 63

ABSTRACT:
We report the spectroscopic characterization of six fluorescent probes for fluoride sensing and/or monitoring. All probes are based on the ability of the boronic acid group to interact with fluoride. The probes combine electron donor and withdrawing groups and involve the excited charge transfer mechanism. The change between the neutral form of the boronic acid group [R-B(OH)2], which is an electron withdrawing group, and the anionic trifluoro form [R-BF-3], which is an electron donating group, is at the origin of the different spectral changes observed for the investigated probes. Two probes are based on the stilbene structure where the boronic group in the 4 position is coupled with a cyano group, in one case, and the dimethylamino group in the other case, both at the 4' position. Another probe is based on the diphenyl-1,4-butadiene possessing the boronic acid group in the 4' position and a dimethylamino group in the 4' position. One probe is based on the diphenyloxazole structure having both the boronic acid and the dimethylamino groups in para positions. The two last probes reported are based on the benzalacetophenone (chalcone) structure, again coupling the boronic acid and dimethylamino groups. All probes show spectral shifts and/or intensity changes in the presence of fluoride resulting in most of the cases to a wavelength-ratiometric way for the detection and/or anal. of fluoride. Selectivity and stability consts. are also presented and discussed. (c) 2002 Academic Press.

SUPPL. TERM: fluorescence probe fluoride detn
INDEX TERM: Electron donors
Electron transfer
Fluorescent indicators
Fluorometry
(fluorescent probes for fluoride using boronic acids)
INDEX TERM: 16984-48-8, Fluoride, analysis
ROLE: ANT (Analyte); ANST (Analytical study)
(fluorescent probes for fluoride using boronic acids)
INDEX TERM: 406719-91-3 406719-92-4 406719-93-5
406719-94-6 406719-95-7 406719-96-8
ROLE: ARU (Analytical role, unclassified); ANST (Analytical study)
(fluorescent probes for fluoride using boronic acids)
OS.CITING REF COUNT: 56 THERE ARE 56 CAPLUS RECORDS THAT CITE THIS RECORD (57 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 31 May 2011
OS.CITING.REFS: CAPLUS 2011:581418; 2011:330297; 2010:938709; 2010:731911; 2010:372843; 2010:430797; 2009:1508405; 2009:1284960; 2009:1192373; 2009:1167680; 2009:513974; 2009:708542; 2009:326427; 2009:467324; 2009:405592; 2009:180417; 2008:1150229; 2008:1148843; 2008:1126750; 2008:982227; 2008:898411; 2008:601305; 2007:1463534; 2007:1259331; 2007:1154244; 2007:1011172; 2007:1001495; 2007:864498; 2007:781248; 2007:596098; 2007:552904; 2007:544629;

2007:402430; 2007:347836; 2007:258546; 2006:1295356; 2006:496977; 2005:1148419; 2005:1016898; 2005:980494; 2005:953114; 2005:601944; 2005:567416; 2005:460733; 2004:1010934; 2004:938446; 2004:715428; 2004:621102; 2004:581074; 2004:495754

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S):
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(2) Cooper, C; Chem Commun 1998, V13, P1365
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(15) Huston, M; J Am Chem Soc 1989, V111, P8735 ZCAPLUS
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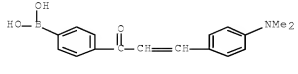
(28) Yang, W; Angew Chem Int Ed 2001, V40, P1714 ZCAPLUS

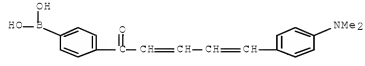
IT 406719-92-4 406719-94-6
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(fluorescent probes for fluoride using boronic acids)

RN 406719-92-4 ZCAPLUS

CN Boronic acid, B-[4-[3-[4-(dimethylamino)phenyl]-1-oxo-2-propen-1-yl]phenyl]- (CA INDEX NAME)



RN 406719-94-6 ZCAPLUS
CN Boronic acid, B-[4-[5-[4-(dimethylamino)phenyl]-1-oxo-2,4-pentadien-1-yl]phenyl]- (CA INDEX NAME)



L51 ANSWER 17 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 2001:186546 ZCAPLUS Full-text
DOCUMENT NUMBER: 134:366929
ENTRY DATE: Entered STN: 18 Mar 2001
TITLE: Synthesis, structure and spectroscopic characteristics of 2'-boryl-4"-dimethylaminochalcones. Effect of an intramolecular boron-oxygen coordinate bond to the conjugated system
AUTHOR(S): Murafuji, Toshihiro; Sugimoto, Kenji; Yanagimoto, Sachiko; Moriya, Tomokazu; Sugihara, Yoshikazu; Mikata, Yuji; Kato, Masako; Yano, Shigenobu
CORPORATE SOURCE: Department of Chemistry, Faculty of Science, Yamaguchi University, Yamaguchi, 753-8512, Japan
SOURCE: Heterocycles (2001), 54(2), 929-942
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 29-4 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22, 75
OTHER SOURCE(S): CASREACT 134:366929
ABSTRACT:
2'-Diethylboryl-4"-dimethylaminochalcone (1) and the related compds. (4)-(7) bearing a dioxyboryl group in the 2'-position were synthesized, and the effect of the intramol. B-O coordinate bond on the spectroscopic characteristics of 4"-dimethylaminochalcone chromophore was examined by comparison with 4"-dimethylaminochalcone (2) using UV/visible and fluorescence spectra.

SUPPL. TERM: crystal structure cyclic boronic ester
boryldimethylaminochalcones; mol structure cyclic boronic ester boryldimethylaminochalcones; boronic ester cyclic prepn crystal structure fluorescence spectra; aminochalcone boryl prepn crystal structure fluorescence spectra
INDEX TERM: Crystal structure
Molecular structure
(of cyclic boronic esters)
INDEX TERM: Fluorescence

(synthesis, structure and spectroscopic characteristics of boryldimethylaminochalcones)
INDEX TERM: Acetalization
(transacetalization; and cyclization reactions between diols and (ethylenedioxyboryl)dimethylaminochalcone)
INDEX TERM: 5419-55-6, Triisopropoxyborane
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(borylation reaction of [(ethylenedioxy)ethyl]bromobenzene by)
INDEX TERM: 100-10-7, 4-Dimethylaminobenzaldehyde 7397-46-8, Diethylmethoxyborane
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(condensation reaction with acetophenone trimethylsilyl enolate)
INDEX TERM: 681448-39-5P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(condensation reaction with acetophenone trimethylsilyl enolate)
INDEX TERM: 13735-81-4, Acetophenone trimethylsilyl enol ether
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(condensation reaction with diethylmethoxyborane)
INDEX TERM: 50777-64-5P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and borylation reaction of)
INDEX TERM: 243140-13-8P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and condensation reactions with dimethylaminobenzaldehyde)
INDEX TERM: 22965-98-6P 340131-44-4P
ROLE: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)
INDEX TERM: 308103-40-4P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization reactions of)
INDEX TERM: 243140-14-9P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and sequential deacetalization and reaction with dimethylaminobenzaldehyde)
INDEX TERM: 340131-41-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and transacetalization with diols to give cyclic boronic esters)
INDEX TERM: 340131-40-0P 340131-42-2P 340131-43-3P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
INDEX TERM: 340131-39-7P
ROLE: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation, crystal structure and reaction with hexylamine)
INDEX TERM: 340131-38-6P
ROLE: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, mol. structure and reaction with hexylamine)
INDEX TERM: 111-26-2, n-Hexylamine
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(reaction with diethylboryldimethylaminochalcone)
INDEX TERM: 2142-69-0, 2'-Bromoacetophenone
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(sequential acetalization reaction and borylation reaction of)
INDEX TERM: 76-09-5, Pinacol 105-59-9, N-Methyldiethanolamine 504-63-2, 1,3-Propanediol
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(transacetalization/cyclization reactions with (ethylenedioxyboryl)dimethylaminochalcone)
OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 16 Feb 2009
OS.CITING.REFS: CAPLUS 2007:258510; 2005:1275420; 2002:974642
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Kamlet, M; J Org Chem 1983, V48, P2877 ZCAPLUS
(2) Klein, J; J Org Chem 1976, V41, P3307 ZCAPLUS
(3) Lippert, E; Z Naturforsch A 1955, V10, P541
(4) Mataga, N; Bull Chem Soc Jpn 1955, V28, P690 ZCAPLUS
(5) Mataga, N; Bull Chem Soc Jpn 1956, V29, P465 ZCAPLUS
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(11) van Walree, C; J Chem Soc, Chem Commun 1995, P35 ZCAPLUS
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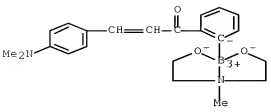
(13) Wrackmeyer, B; Annual Reports on NMR Spectroscopy 1988, V20 ZCAPLUS
IT 340131-43-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 340131-43-3 ZCAPLUS
CN Boron, [2-[(2E)-3-[4-(dimethylamino)phenyl]-1-oxo-2-propenyl]phenyl][[2,2'-(methylimino-κN)bis[ethanolato-κO]](2-)]-, (T-4)- (9CI) (CA INDEX NAME)



L51 ANSWER 18 OF 18 ZCAPLUS COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 1999:422273 ZCAPLUS Full-text
DOCUMENT NUMBER: 131:214326
ENTRY DATE: Entered STN: 08 Jul 1999
TITLE: Structure and spectroscopic characteristics of 2'-diethylboryl-4''-dimethylaminochalcone bearing an intramolecular boron-oxygen coordinate bond
AUTHOR(S): Murafuji, Toshihiro; Sugihara, Yoshikazu; Moriya, Tomokazu; Mikata, Yuji; Yano, Shigenobu
CORPORATE SOURCE: Department of Chemistry, Faculty of Science, Yamaguchi University, Yamaguchi City, 753-8512, Japan
SOURCE: New Journal of Chemistry (1999), 23(7), 683-685
CODEN: NJCHE5; ISSN: 1144-0546
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
CLASSIFICATION: 29-4 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 75

ABSTRACT:
How formation of an intramol. coordinate bond affects mol. structure was examined in the structural comparison of (E)-2'-diethylboryl-4''-dimethylaminochalcone (1) and 2'-ethylenedioxyboryl-4''-dimethylaminochalcone (2) with chloro{2-[(4-dimethylaminostyryl)carbonyl]phenyl}(4-methylphenyl)bismuthane (3) and (E)-4''-dimethylaminochalcone (4). 1-4 Were prepared and characterized spectroscopically and X-ray crystallog. structures were determined for 1 and 4.

SUPPL. TERM: crystal structure aminochalcone borylchalcone; mol structure aminochalcone borylchalcone; aminochalcone ethylboryl ethylenedioxyboryl tolylbismuthino prepn; boron oxygen bond intramol coordinate borylchalcone; lewis acidity ethylenedioxyboryl ethylboryl comparison chalcone; solvatochromism borylchalcone chalcone comparison
INDEX TERM: Bond
(boron-oxygen, intramol., coordinate; of (ethylboryl)aminochalcone)
INDEX TERM: Crystal structure
Molecular structure
(of (ethylboryl)aminochalcone and aminochalcone)
INDEX TERM: Solvatochromism
(of ethylboryl(aminochalcone) compared to aminochalcone)
INDEX TERM: Lewis acidity
(of ethylenedioxyboryl group compared to ethylboryl group

in substituted aminochalcones)
INDEX TERM: Linear free energy relationship
(solvation energy; between solvent shifts and Kamlet-Taft parameter for UV/VIS spectra of (ethylboryl)aminochalcone and aminochalcone)
INDEX TERM: 100-10-7, 4-Dimethylaminobenzaldehyde
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(aldol condensation with acetophenone)
INDEX TERM: 98-86-2, Acetophenone, reactions
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(aldol condensation with aminobenzaldehyde)
INDEX TERM: 7397-46-8, Methyl diethylborinate 51752-29-5, Chlorodi(p-tolyl)bismuthine
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(condensation with phenyl(silyloxy)ethene)
INDEX TERM: 13735-81-4
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(condensation with tolyl(chloro)bismuthine)
INDEX TERM: 167771-87-1P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and condensation with aminobenzaldehyde)
INDEX TERM: 243140-13-8P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and condensations with aminobenzaldehyde)
INDEX TERM: 243140-09-2P 243140-16-1P
ROLE: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)
INDEX TERM: 22965-98-6P
ROLE: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and mol. structure of)
INDEX TERM: 243140-15-0P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and substitution by chloride)
INDEX TERM: 243140-14-9P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and transacetalization followed by condensation with aminobenzaldehyde)
INDEX TERM: 243140-10-5P 243140-11-6P 243140-12-7P
ROLE: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
INDEX TERM: 50777-64-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(substitution with iso-Pr borate followed by hydrolysis)
OS.CITING REF COUNT: 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS RECORD (12 CITINGS)
DATE LAST CITED: Date last citing reference entered STN: 14 Aug 2009
OS.CITING.REFS: CAPLUS 2009:677921; 2008:880631; 2008:116304; 2007:258510; 2006:1295356; 2006:1171115; 2005:1255223; 2004:552272;

2004:470247; 2002:974642; 2002:575977; 2001:186546
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S):
(1) Jiang, Y; J Photochem Photobiol A: Chem 1994, V81, P205 ZCAPLUS
(2) Kamlet, M; J Org Chem 1983, V48, P2877 ZCAPLUS
(3) Lippert, E; Z Naturforsch A 1955, V10, P541
(4) Mataga, N; Bull Chem Soc Jpn 1955, V28, P690 ZCAPLUS
(5) Mataga, N; Bull Chem Soc Jpn 1956, V29, P465 ZCAPLUS
(6) Murafuji, T; Organometallics 1995, V14, P3848 ZCAPLUS
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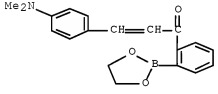
(8) Sugihara, Y; J Chem Soc Perkin Trans 1 1995, V22, P2813
(9) Sugihara, Y; New J Chem 1998, V22, P1031 ZCAPLUS
(10) Suzuki, H; J Chem Soc Perkin Trans 1 1993, P1169 ZCAPLUS
(11) van Walree, C; J Chem Soc Chem Commun 1995, P35 ZCAPLUS
(12) Wang, P; J Photochem Photobiol A: Chem 1995, V86, P109 ZCAPLUS

IT 243140-10-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 243140-10-5 ZCAPLUS
CN 2-Propen-1-one, 3-[4-(dimethylamino)phenyl]-1-[2-(1,3,2-dioxaborolan-2-yl)phenyl]- (CA INDEX NAME)



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=>  d his full

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L*** DEL         STRUCTURE UPLOADED
L*** DEL      16 S L1

     FILE 'ZCAPLUS' ENTERED AT 10:18:46 ON 18 OCT 2011
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                  E WO2004-EP8825/APPS
L1             1 SEA SPE=ON  ABB=ON  PLU=ON  WO2004-EP8825/APPS
                  D SCA
                  SEL RN

     FILE 'REGISTRY' ENTERED AT 10:20:00 ON 18 OCT 2011
L2             3 SEA SPE=ON  ABB=ON  PLU=ON  (406719-91-3/BI OR 406719-93-5/BI
                  OR 50-99-7/BI)
                  D SCA
L3                STRUCTURE UPLOADED
L4             0 SEA SSS SAM L3
                  D L3
L5                STRUCTURE UPLOADED
L6             0 SEA SSS SAM L5
L7                STRUCTURE UPLOADED
L8             1 SEA SSS SAM L7
                  D SCA
L9            26 SEA SSS FUL L7
                  SAVE TEMP L9 WIN406STR7L/A
                  D SCA
L10               STRUCTURE UPLOADED
L11            0 SEA SUB=L9 SSS SAM L10
L12           16 SEA SUB=L9 SSS FUL L10

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L13           18 SEA SPE=ON  ABB=ON  PLU=ON  L12

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L14            2 SEA SPE=ON  ABB=ON  PLU=ON  GLUCOSE/CN

     FILE 'ZCAPLUS' ENTERED AT 10:35:12 ON 18 OCT 2011
L15       699325 SEA SPE=ON  ABB=ON  PLU=ON  L14 OR ?GLUCOS?
L16       325389 SEA SPE=ON  ABB=ON  PLU=ON  ?SACCHARID?
L17          490 SEA SPE=ON  ABB=ON  PLU=ON  ?OPTHALM?
L18        32416 SEA SPE=ON  ABB=ON  PLU=ON  ?OPHTHALM?
L19       166464 SEA SPE=ON  ABB=ON  PLU=ON  EYE
L20       717477 SEA SPE=ON  ABB=ON  PLU=ON  ?FLUORESC?
L21      1438953 SEA SPE=ON  ABB=ON  PLU=ON  OPTIC?
L22       444462 SEA SPE=ON  ABB=ON  PLU=ON  SENSOR?
L23        25592 SEA SPE=ON  ABB=ON  PLU=ON  OCULAR?
L24         7970 SEA SPE=ON  ABB=ON  PLU=ON  CONTACT LEN?
L25      2633827 SEA SPE=ON  ABB=ON  PLU=ON  POLYMER?
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L26      125187 SEA SPE=ON  ABB=ON  PLU=ON  SENSING?
L27          11 SEA SPE=ON  ABB=ON  PLU=ON  L13 AND (L15 OR L16 OR L17 OR L18
                OR L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR L26)
                D SCA
L28           7 SEA SPE=ON  ABB=ON  PLU=ON  L13 NOT L27
                D SCA
L29      411686 SEA SPE=ON  ABB=ON  PLU=ON  SUGAR?
L30           4 SEA SPE=ON  ABB=ON  PLU=ON  L13 AND L29
L31           4 SEA SPE=ON  ABB=ON  PLU=ON  BLOOD? AND L13
                D SCA
L32         120 SEA SPE=ON  ABB=ON  PLU=ON  CHAPOY L?/AU,AUTH
L33          32 SEA SPE=ON  ABB=ON  PLU=ON  DOMSCHKE A?/AU,AUTH
L34       19268 SEA SPE=ON  ABB=ON  PLU=ON  SMITH D?/AU,AUTH
L35           2 SEA SPE=ON  ABB=ON  PLU=ON  L32 AND (L33 OR L34)
L36           4 SEA SPE=ON  ABB=ON  PLU=ON  L33 AND L34
L37           5 SEA SPE=ON  ABB=ON  PLU=ON  (L35 OR L36)
L38         716 SEA SPE=ON  ABB=ON  PLU=ON  (L32 OR L33 OR L34) AND (L15 OR
                L16 OR L29)
L39          56 SEA SPE=ON  ABB=ON  PLU=ON  L38 AND ((L17 OR L18 OR L19 OR L20
                OR L21 OR L22 OR L23 OR L24) OR L26)
L40           1 SEA SPE=ON  ABB=ON  PLU=ON  L39 AND BORO?
                D SCA
L41           4 SEA SPE=ON  ABB=ON  PLU=ON  L39 AND ?BORO?
                D SCA

     FILE 'REGISTRY' ENTERED AT 10:58:20 ON 18 OCT 2011
L42             ANALYZE PLU=ON  L12 1-16 LC :       7 TERMS
                D

     FILE 'MEDLINE, EMBASE, BIOSIS, WPIX' ENTERED AT 11:00:04 ON 18 OCT 2011
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                OR ?SACCHARID? OR SUGAR)
L44         159 SEA SPE=ON  ABB=ON  PLU=ON  L43 AND ((L17 OR L18 OR L19 OR L20
                OR L21 OR L22 OR L23 OR L24) OR L26)
L45          11 SEA SPE=ON  ABB=ON  PLU=ON  L43 AND ?BORO?
L46           9 SEA SPE=ON  ABB=ON  PLU=ON  L44 AND L45
                D SCA
L47           7 SEA SPE=ON  ABB=ON  PLU=ON  L37

     FILE 'ZCAPLUS' ENTERED AT 11:12:30 ON 18 OCT 2011

     FILE 'REGISTRY' ENTERED AT 11:12:56 ON 18 OCT 2011

     FILE 'ZCAPLUS' ENTERED AT 11:12:58 ON 18 OCT 2011
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                D STAT QUE L41
L48           7 SEA SPE=ON  ABB=ON  PLU=ON  L37 OR L41

     FILE 'MEDLINE, EMBASE, BIOSIS, WPIX' ENTERED AT 11:13:17 ON 18 OCT 2011
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                D STAT QUE L46
                D STAT QUE L47
L49          14 SEA SPE=ON  ABB=ON  PLU=ON  (L45 OR L46 OR L47)
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L50          12 DUP REM L48 L49 (9 DUPLICATES REMOVED)
                    ANSWERS '1-7' FROM FILE ZCAPLUS
                    ANSWERS '8-9' FROM FILE MEDLINE
                    ANSWER '10' FROM FILE BIOSIS
                    ANSWERS '11-12' FROM FILE WPIX
                D IALL L50 1-10
                D IALL HIT L50 11-12

     FILE 'REGISTRY' ENTERED AT 11:15:30 ON 18 OCT 2011

     FILE 'ZCAPLUS' ENTERED AT 11:15:34 ON 18 OCT 2011
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                D STAT QUE L27
                D STAT QUE L30
                D STAT QUE L31
L51          18 SEA SPE=ON  ABB=ON  PLU=ON  L13 OR L27 OR L30 OR L31
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     FILE HOME

     FILE REGISTRY
     Property values tagged with IC are from the ZIC/VINITI data file
     provided by InfoChem.

     STRUCTURE FILE UPDATES:   17 OCT 2011  HIGHEST RN 1337015-67-4
     DICTIONARY FILE UPDATES:  17 OCT 2011  HIGHEST RN 1337015-67-4

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FILE COVERS 1907 - 18 Oct 2011 VOL 155 ISS 17
FILE LAST UPDATED: 17 Oct 2011 (20111017/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2011
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2011

ZCAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2011.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE MEDLINE
FILE LAST UPDATED: 15 Oct 2011 (20111015/UP). FILE COVERS 1946 TO DATE.

MEDLINE(R) is a registered trademark of the U.S. National Library of Medicine (NLM).

MEDLINE and LMEDLINE have been updated with the 2011 Medical Subject Headings (MeSH) vocabulary and tree numbers from the U.S. National Libra of Medicine (NLM). Additional information is available at:

http://www.nlm.nih.gov/pubs/techbull/nd10/nd10_medline_data_changes_2011.

The 2011 Medline reload was completed on January 22, 2011.
See HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

See HELP RANGE before carrying out any RANGE search.

FILE EMBASE
FILE COVERAGE: EMBASE-originated material 1947 to 18 Oct 2011 (20111018/E
Unique MEDLINE content 1948 to present

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

For further assistance, please contact your local helpdesk.

FILE BIOSIS
FILE COVERS 1926 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT

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FROM JANUARY 1926 TO DATE.

RECORDS LAST ADDED: 12 October 2011 (20111012/ED)

BIOSIS has been augmented with 1.8 million archival records from 1926
through 1968.  These records have been re-indexed to match current
BIOSIS indexing.

FILE WPIX
FILE LAST UPDATED:          14 OCT 2011   <20111014/UP>
MOST RECENT UPDATE:           201166      <201166/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE
>>> Now containing more than 1.8 million chemical structures in DCR <<<

>>> IPC, European Classifications (ECLA and ICO), US National
    Classifications and Japanese Classifications (F-Terms and
    FI-Terms) have been updated with reclassifications to mid
    of June 2011.
    No update date (UP) has been created for the reclassified
    documents, but they can be identified by the reclassified
    specific update codes (see HELP CLA for details) <<<

>>> FOR THE LATEST DERWENT WORLD PATENTS INDEX (DWPI)
    STN USER DOCUMENTATION, PLEASE VISIT:
    http://www.stn-international.com/stn_dwpi.html <<<

>>> HELP for European Patent Classifications see HELP ECLA, HELP ICO

>>> New EPC/ICO thesauri now available - see HELP THEsaurus, HELP RCO

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